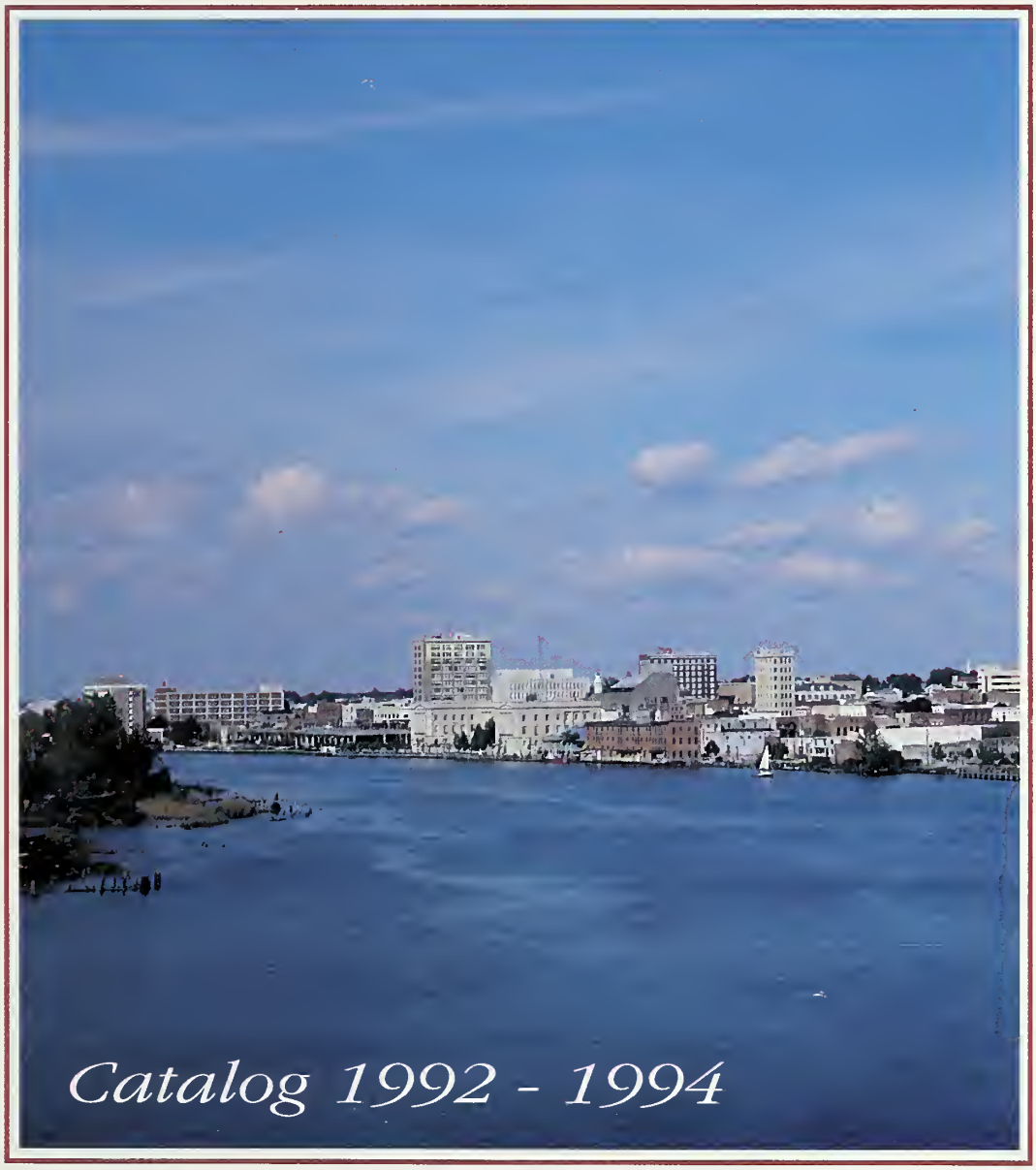
CAPE FEAR **COMMUNITY** COLLEGE

WILMINGTON, NORTH CAROLINA



CAPE FEAR **COMMUNITY** COLLEGE

411 North Front Street
Wilmington, North Carolina 28401-3993
(919)343-0481

CATALOG 1992-1994

VOLUME XXV **MAY, 1992**

NOTE

This catalog is published for the purpose of providing information about the college and its programs. Announcements contained herein are subject to change without notice and may not be regarded in the nature of binding obligations on the College or the State. Efforts will be made to keep changes to a minimum, but changes in policy by the North Carolina State Legislature, the Department of Community Colleges, or by local conditions may make some alterations in curricula, fees, etc., necessary.

PRIVACY RIGHTS ACT OF PARENTS AND STUDENTS

PUBLIC LAW 93-380—Cape Fear Community College adheres to the Guidelines developed by the Department of Health, Education and Welfare regarding the Privacy Rights of Parents and Students.

The College provides students and parents of dependent students access to official records directly related to them and limits dissemination of personally identifiable information without the students' consent. Students enrolled at Cape Fear Community College may review guidelines and procedures regarding Public Law 93-380 in the offices of Admissions and Records. Procedures for challenging such record may also be obtained in these offices.

NON-DISCRIMINATION POLICY

Cape Fear Community College's Board of Trustees and Staff recognize the importance of equal opportunity in all phases of the College's operations and have officially adopted a position of nondiscrimination on the basis of race, color, age, religion, national origin, physical handicap, or other non-relevant factors. This policy applies to both students and employees at all levels of the school's operations.

VISITORS

Visitors are always welcome at Cape Fear Community College. The Student Affairs office will provide guide service for groups or individuals on weekdays between 8:00 AM and 5:00 PM and will answer questions about the school and its programs. Prospective students are requested, when possible, to notify the Student Affairs office when they are going to visit. This will ensure that appropriate staff will be available for questions. The school is open until 10:00 PM Monday through Friday and individuals may visit at their convenience.

Cape Fear Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate in Applied Science and Associate in Arts degrees and is a member institution of the North Carolina Department of Community Colleges and the American Association of Community and Junior Colleges.

"ADMISSION TO ANY AND ALL EDUCATIONAL PROGRAMS OFFERED BY CAPE FEAR COMMUNITY COLLEGE IS MADE WITHOUT REGARD TO RACE, COLOR, SEX, RELIGION, NATIONAL ORIGIN, PHYSICAL HANDICAP OR OTHER NON-RELEVANT FACTORS."

May 1992
Cape Fear Community College
10,000 copies of this public document were printed at a cost of $8,480 or $0.85 each.

Affirmative Action / Equal Opportunity College

COVER PHOTO BY
FREDA WILKINS
WILMINGTON, NORTH CAROLINA

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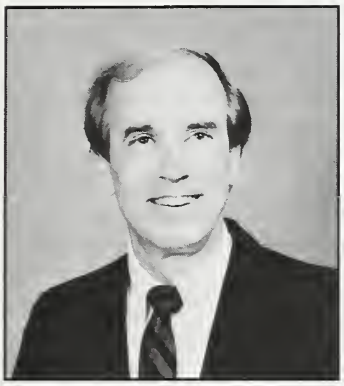
Foreword



Greetings on behalf of the faculty, staff, trustees, and students of Cape Fear Community College. I encourage you to use this catalog as much as you can as you explore your interest in Cape Fear Community College. The catalog includes a number of new programs, notably, the College Transfer Program, which enables a student to earn an Associate of Arts Degree for transfer to a four-year institution, as well as several new Allied Health and technical programs. These new programs, and others that are in the works, are the result of a careful analysis of community needs as well as national predictions about what the job market will be like in the year 2000.

All this is to say that Cape Fear Community College is committed to serving you in the most effective way. Meeting your educational needs is our top priority.

Therefore, on behalf of the faculty, staff, trustees, and students of Cape Fear Community College, I welcome you in your efforts to learn more about our college.

Richard C. Conrath
President

Calendar 1992-94

FALL 1992

Faculty In-service	September 8-9, 1992
Registration	September 10-11,1992
Classes Begin	September 14, 1992
Early Registration for Winter Quarter	November 11-12, 1992
Thanksgiving Holidays	November 26-27, 1992
Classes End	December 1, 1992

WINTER 1992

Registration	December 3-4, 1992
Classes Begin	December 7, 1992
Holidays	December 21, Through January 1, 1993
Martin Luther King Holiday	January 18, 1993
Early Registration for Spring Quarter	February 10-11, 1993
Classes End	March 8, 1993

SPRING 1993

Registration	March 10, 1993
Classes Begin	March 11, 1993
Holiday	April 9, 1993
Memorial Day Holiday	May 31, 1993
Early Registration for Summer Quarter	May 19-20, 1993
Classes End	(Thursday) May 27, 1993
Graduation	(Friday) May 28, 1993

SUMMER 1993

Registration	June 1, 1993
Classes Start	June 2, 1993
Holiday	July 5, 1993
Early Registration for Fall Quarter	August 4 & 5, 1993
Classes End	(Wednesday) August 18, 1993
Graduation	(Thursday) August 19, 1993

FALL 1993

Faculty In-service	September 7 & 8, 1993
Registration	September 9-10, 1993
Classes Begin	September 13, 1993
Early Registration for Winter Quarter	November 10-11, 1993
Thanksgiving Holidays	November 25-26, 1993
Classes End	November 30, 1993

WINTER 1993

Registration	December 2-3, 1993
Classes Start	December 6, 1993
Holidays	December 20-31, 1993
Martin Luther King Holiday	January 17, 1994
Early Registration for Spring Quarter	February 10-11, 1994
Classes End	March 7, 1994

SPRING 1994

Registration	March 8-9, 1994
Classes Begin	March 10, 1994
Holiday	April 1, 1994
Early Registration for Summer Quarter	May 19-20, 1994
Classes End	(Thursday) May 26, 1994
Graduation	(Friday) May 27, 1994
Holiday	May 30, 1994

SUMMER 1994

Registration	May 31, 1994
Classes Begin	June 1, 1994
Holiday	July 4, 1994
Early Registration for Fall Quarter	August 4-5, 1994
Classes End	(Wednesday) August 17, 1994
Graduation	(Thursday) August 18, 1994

Administration

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Dr. Richard C. Conrath ..... Cape Fear Community College, President

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History

The College was established as the Wilmington Industrial Education Center in 1959 under the direction of the late George H. West. It was raised to technical institute status on July 1, 1964 and renamed Cape Fear Technical Institute. To more clearly reflect the role and mission of the school, the Board of Trustees recommended that the school again change its name. The New Hanover County Commissioners concurred with the Board, and on January 1, 1988 the school officially became Cape Fear Community College (CFCC).

CFCC is one of fifty-eight such institutions operated by the State under the direction of the State Board of Community Colleges and administered by a local Board of Trustees. The System was authorized by the North Carolina General Assembly, Chapter 115D (originally 115A) of the General Statutes.

The College was one of the original industrial education centers and was operated from 1959 until 1963 by the New Hanover Board of Education. Following a favorable vote of the citizens of the County on a $575,000 bond issue to provide a technical institute facility and a $0.02 tax levy for its support, $500,000 in matching funds from the 1963 Vocational Education Act Appropriation was authorized to be applied toward facility construction.

The College continued to operate in County-owned buildings until new facilities were completed in the summer of 1967. These facilities included a four story main building, a separate automotive shop, and a pier and docking facility for the school's training vessels.

In the General Election of 1972, the citizens of New Hanover County approved another bond issue for $3,676,000 for the expansion of the College's facilities. This resulted in a modern seven story building that provided valuable additional classrooms, shops, and office space, with one floor devoted to the library.

In 1982 the New Hanover County Commissioners responded favorably to a request made by the Board of Trustees to purchase and renovate a temporary facility to house second year electronic and instrumentation technologies curricula. The building, located near the main campus, was renovated to meet the needs of the two curricula at a total cost to the Country of $300,000.

In 1986 and again in 1988 the State Legislature appropriated $300,000 for the construction of a satellite facility in Pender County. With the Pender County Commissioners donating 11 acres of land, $200,000, and an additional $75,000 for landscaping, to that already appropriated by the Legislature, a 15,000 square foot building was opened at the Pender County Campus in Burgaw in June 1990.

The New Hanover County commissioners approved funds in 1989 to renovate one of its building to house classrooms, laboratory, and office space for the new Associate Degree in Nursing program, which accepted its first class in the fall of 1989.

The number of people served annually by the College has risen from approximately 750 during its early years of operation to more than 19,000 in recent years.

In 1969 the College was granted status as a Special Purpose Institute by the Southern Association of Colleges and Schools. The following year the Southern Association's Commission on Colleges granted membership to the College contingent upon successfully completing a self-study within the next five years. This was accomplished and at the Association's Annual Meeting in 1975, the College was granted full membership status.

Purpose

Cape Fear Community College is a unique, comprehensive, public two-year college with a mission to provide:

"An environment conducive to achieving maximum learning potential;

"Academic and career guidance; Academic and life-long learning for adults that will meet their educational, vocational, and avocational needs;

"Programs that enrich the economic, social, and cultural needs of adults and the community, and

"Review and revision, as well as additions to, existing programs and services to ensure that the College is meeting the needs of the people it serves."

Location

Cape Fear Community College is conveniently located in the heart of Wilmington on North Front Street. The campus extends from Front Street to the deep water channel of the Cape Fear River and is bordered by Red Cross Street on the north and Walnut Street on the south.

The Fred J. Galehouse Building houses the administrative offices, business office, classrooms, chemical and criminalistics laboratories, and part of the shop areas. The M.J. McLeod Building houses the student affairs office, library, laboratories, classrooms, cafeteria, and the student lounge area. Two additional shop buildings (the Richard L. Burnett and the William T. Emmart) are located at the water's edge, and a pier extends out to the deep-water channel to provide mooring for the school's training vessels. The buildings are of all-masonry construction and designed especially for trade and technical programs. All classrooms and offices are air-conditioned for year-round comfort.

The Wilmington area has abundant recreational facilities that include beaches, salt-water and fresh-water fishing, good hunting area, year-round golf courses and tennis courts.

Shops & Equipment

The shops and laboratory areas were carefully planned to provide large, well-ventilated, and industry-type training facilities.

Equipment for all shops, laboratories, test areas, drafting rooms, and for the training ships was selected to conform with the current tools and devices of industry. Students will find that ample opportunity is provided in all trade and technical curricula for skill-building practice in using modern, industrial tools and machines. Classrooms for study of the academic related subjects are conveniently located; a well-stocked technical library is available both day and night.

Areas of Study

Curricula which the College is presently authorized to offer include the following:

Technical Curricula

(See pages 37 to 72 for course descriptions.)

- Accounting
- Administrative Office Technology
- Associate Degree Nursing
- Basic Law Enforcement Training (Certificate Program)
- Business Administration
- Chemical Technology
- Computer Engineering Technology
- Criminal Justice - Protective Service Technology
- Drafting and Design Engineering Technology
- Electronics Engineering Technology
- General Occupational Technology
- Instrumentation Technology
- Manufacturing Engineering Technology
- Marine Technology
- Medical Record Technology
- Microcomputer Systems Technology
- Paralegal Technology
- Real Estate (Technical Specialty) (Certificate Program)
- Real Estate Appraisal (Certificate Program)

Students graduating from these programs are awarded the Associate in Applied Science degree.

Vocational Curricula

(See pages 81-100 for course descriptions.)

- Air Conditioning, Heating & Refrigeration
- Automotive Mechanics
- Boatbuilding
- Child Care Worker
- Dental Assisting
- Industrial Electricity
- Industrial Mechanics
- Light Construction
- Machinist
- Marine and Diesel Mechanics
- Phlebotomy (Certificate Program)
- Practical Nursing
- Welding

A diploma is earned by graduates of these vocational programs.

College Transfer

(See pages 37 to 72 for course descriptions.)

The College Transfer program is designed to provide a broad background in the core courses of a liberal arts curriculum comprising the first two years of a four-year baccalaureate degree in major areas other than the fine arts or the sciences.

General Education

(See pages 37 to 72 for course descriptions.)

Students who graduate from the General Education Curriculum are awarded the Associate in General Education degree.

Admissions Criteria and Information

Admissions Statement

Cape Fear Community College maintains an open door admissions policy for all persons who are eighteen years old or older, younger than eighteen but high school graduates, or high school students who have special concurrent enrollment permission.

While a high school education or recognized equivalency is desirable for admission to vocational programs, students who do not meet this requirement may be admitted to vocational, diploma programs. Exceptions are students entering the Practical Nursing or Child Care Worker vocational programs; these students must hold high school diplomas or a recognized equivalency.

Students who do not wish to enter degree or diploma programs may enter CFCC as a "special credit" or "T-301" (technical)/ "V-301" (vocational) student. Day or evening students may be admitted as special credit students; however, these students may only carry a part-time course load. Also, special credit students must have their registration cards approved by an Admissions Counselor. (Special credit students may not

register for classes until class space is open to the general public.) Admission as a special credit student does not constitute admission to any curriculum program. Special credit students may attempt no more than 27 credit hours without meeting admissions requirements. Students who exceed this number will not be permitted to register until admissions requirements are met. Also, students who enter a curriculum program from special credit status as well as students who receive veterans benefits or financial aid must meet all admissions requirements prior to time of registration. Exceptions are programs which do not culminate in a degree or diploma. Admissions requirements do not apply to these programs.

Admissions Process

1. Application
An application for admission must be submitted prior to registration.

2. Official high school or General Educational Development (GED) Transcript
An official high school or GED transcript must be sent directly to CFCC from the high school last attended, school which proctored the GED, or state-level GED agency.

3. Official College Transcript(s)
Official college transcripts must be sent directly to CFCC from the college(s) last attended.

4. Assessment Test
Students are required to take the assessment test prior to enrollment. (There is no charge for the test.) Assessment test results are used to determine whether students need to enhance their skills in the areas of English, math, and/or reading. It is strongly recommended, and in some cases mandatory, that students take necessary courses before entering curriculum programs since those credits do not apply toward graduation. Assessment test schedules are available in the Admissions Office.

Students who meet any one of the following requirements may waive the assessment test: (1) students who have taken college-level math and English and achieve a "C" or better, (2) students who score a minimum of 400 on the verbal and math sections of the SAT, (3) students who have scored a minimum of 18 on the verbal and numerical sections of the ACT.

5. Medical Examination
Accepted students in Marine Technology and the ADN and LPN programs must submit medical forms which are signed by a physician, physician's assistant, or nurse practitioner. Students in other curriculum programs are required to provide the College with medical information. Medical forms are available in the Admissions Office.

Admission of Nursing Students

Students seeking admission to nursing programs must comply with additional requirements. (Note: Acceptance in either the Licensed Practical Nurse (LPN) or the Associate Degree in Nursing (ADN) program is contingent on applicants submitting and completing all required documents, prior to the deadline for accepting applications, and attaining a sufficient score on the assessment test.)

The additional requirements for the ADN and LPN programs are as follows:

1. Nursing Admissions Test
The regular College assessment test is used as criteria for admission into the above programs. Applicants must meet the minimum test scores as prescribed for the nursing program in order to be considered further for the program. Dates of the test for nursing students are made available by the Admissions Office, as well as minimum assessment test scores. The assessment test may not be repeated within a three-month period for both ADN/LPN applicants. Effective March 1, 1991, applicants will be allowed to take the assessment test three times only.

2. Transcripts
Official records of high school graduation or equivalent and any post-secondary transcripts will be required. Transcripts for application for the ADN program must provide evidence of successful completion of biology or general science with a grade of C or higher. A standard score of 45 on the GED Natural Science test can count as one unit of biology. High school chemistry and algebra are recommended but not required.

3. Interview with Nursing Admissions Committee

4. Physical and Emotional Health
The results of a physical examination given by a physician, physician assistant or nurse practitioner must be submitted to the college prior to final acceptance into one of the nursing programs. The physical must include a TB test (chest X-ray is a positive reaction), immunization record, VDRL, urinalysis, and rubella titler or evidence of rubella vaccination. Although students are conditional acceptance, the physical exam must be received by the college before the student receives final acceptance.

5. BCLS (Basic Cardiac Life Support) Certification
The accepted applicants are required to be BCLS certified in CPR prior to entering the program. Students must maintain active certification throughout the program.

6. Advanced Standing
Students who have completed the LPN program and who hold a current license to practice as an LPN, may apply for advanced standing in the ADN program. Such students must have successfully completed, with a grade of "C" or better, the following courses: BIO 121 Anatomy and Physiology I, PSY 150 Introduction to Psychology, BIO 122 Anatomy and Physiology II, PSY 250 Growth and Development, BIO 123 Microbiology, CAS 101B Computer Familiarization, and NUR 120 Nursing Transition. NUR 120 must be taken within one academic year prior to acceptance into the program. Advanced

placement is available on a space-available basis. It is recommended that the LPN seeking Advanced Placement have current (within the last three years) acute or long-term care practice.

Admission of Out-of-State Students

Out-of-state students are admitted under the same admission standards as residents of North Carolina. Residency classification for out-of-state students will be determined by the laws of the State of North Carolina. At the time of admission, the Director of Admissions will determine the residency status of the applicant based on the information supplied on the application and any other data deemed appropriate by the Director of Admissions. If the applicant is not satisfied with the residency classification assigned by the Director of Admissions, an appropriate form for appeal is available in the Office of Student Affairs, but must be filed within ten (10) days following the first notification of residency status. Applicants wishing additional information about the laws of North Carolina governing residency classification for students should make inquiry to the Office of Student Affairs, where copies of the law are maintained.

Admission of Non-Immigrant Alien Students

The school is authorized under Federal law to admit non-immigrant alien students.

Admitted Student Information

Transfer Within the College

Students who desire to change from one program to another must submit their request to the Admissions Office. Such requests will be carefully reviewed and students will be notified by the Admissions Office of its decision. In cases where students are permitted to change programs, prior satisfactory credits earned may be applied to the requirements for the new program where applicable.

Proficiency Examination

Credit by proficiency examination may be given for a course. Eligibility to take a proficiency examination may be based on high achievement in secondary schools, post secondary schools, or experience. Arrangements for examination should be made with the major subject instructor or the department chair.

Freshman Orientation

Freshman Orientation is provided for full time students who are entering for the first time. Orientation informs the student about the academic and social policies of the College and acquaints him or her with the library and other facilities. Upperclassmen assist in orientation and help answer questions about the College's policies and procedures.

Registration

Students who have been admitted will register on the dates set by the school for this purpose. Students will obtain their class schedules and pay their fees at that time.

Quarter System

The school year is divided into four quarters of 55 school days. Credits earned are in quarter hours. See course description section for number of credits required for graduation in each program.

Course Load

A student who carries a minimum of 12 quarter hours is considered a full time student. The normal load is 14-18 quarter hours. A student may carry a maximum of 24 quarter hours credit. Any exception to this rule must be approved by the Dean of Student Affairs.

Auditing Courses

Students who wish to audit courses must register for the audit by following the regular registration procedures and stating in writing on a Registration Card or Drop/Add form which course(s) they are auditing. Auditing students receive no credit and are not required to participate in class discussion or take tests. The fees for audit courses are the same as those taken for credit. Changes from audit to credit or credit to audit may only be done during registration or drop/add periods.

Drop/Add/Late Registration

Students will be allowed to drop or add a class or register during the first three (3) days of each quarter.

Tuition, Fees, and Refunds

Tuition is established by the North Carolina State Legislature and is subject to change without prior notification; however, the tuition is likely to change annually, which may be modest. During the 1991-1992 academic year tuition for curriculum courses was as follows:

Tuition

North Carolina Students
Full Time $161.00 per quarter
Part Time $11.50 per quarter hour credit

Out-of-State Students
Full Time $1505.00 per quarter
Part Time $107.50 per quarter hour credit

If tuition is a major factor in the student's determination to attend CFCC, please contact the Director of Financial Aid as soon as possible.

Personnel in the Armed Services

Any member of the armed services who qualifies for admission shall be charged the out-of-state rate but will pay the in-state rate with the difference being waived.

Any dependent relative of a member of the armed services who is abiding in this State incident to active military duty while sharing the abode of that member shall be eligible to be charged the in-state tuition rate.

Other Costs

Books and small tools are purchased by students as they are needed. The College attempts to keep the cost of books and tools at a minimum.

A non-refundable activity fee is charged to all curriculum students for the Fall, Winter, and Spring quarters. This fee is paid at the following rate: $1.00 for every two (2) quarter hours of credit up to a maximum of twelve (12) quarter hours. The maximum fee charged is $6.00 per quarter.

All students who work in laboratories or shops are required to have accident insurance; this insurance may be purchased annually or quarterly at the time of registration. All insurance expires on August 31 of each school year.

Parking permits may be purchased for $8.00 at the time of the student's initial registration. Parking permits are valid through August of the current school year.

Payments

All tuition and fee charges are due and payable on the day of registration. Any deferred payments or exceptions to rules on financial affairs must be approved by the Dean of Adminstrative Services.

Accident insurance is purchased on registration day of the first quarter of attendance.

No student will be permitted to graduate, nor will a transcript be issued, until all financial obligations to the school are satisfied.

Refunds

A tuition refund for students shall not be made unless the student is, in the judgment of the college, compelled to withdraw for unavoidable reasons. In such cases, two-thirds (2/3) of the student's tuition may be refunded if the student withdraws within ten (10) calendar days after the first day of classes as published in the school calendar and requests such refund in writing. Tuition refunds will not be considered after that time.

(Refunds will not be considered for tuition of five dollars ($5.00) or less; if a course or curriculum fails to materialize, all the student's tuition shall be refunded.)

Where a student, having paid the required tuition, withdraws from the college before the end of the quarter and the reasons for the withdrawal are found excusable by the appropriate school official, the student may be allowed credit for unrefunded tuition. To qualify for such tuition credit, the student must apply in writing for re-admission during any of the next four calendar quarters.

Withdrawal

Students desiring to withdraw from school must contact the Admissions Office to obtain the necessary forms and procedures for official withdrawal. A student who fails to withdraw officially will receive a grade of "NC" (No Credit).

Students who withdraw from a course(s) within the first 20% of class hours will receive a grade of "W" which will not be computed in the GPA (Grade Point Average). Students who withdraw from a course(s) after this period must receive a grade of "WP" (Withdraw Passing) or "WF" (Withdraw Failing). WP's will not be computed in the GPA whereas WF's will be computed as a failing grade.

Students who withdraw after the eighth week of classes must obtain permission in writing from the Dean of Student Affairs and the instructor, unless the student is completely withdrawing from all classes.

Student Financial Aid

It is required that each applicant for financial assistance complete and submit the Financial Aid Form to the appropriate College Scholarship Service Office or the application for Federal Student Aid programs processed by the Pell Grant Processing Center. The Financial Aid Form can be obtained by writing the Office of Financial Aid.

It is also required that each aid applicant complete and submit the College Application for Financial Aid to the Office of Financial Aid and be fully accepted to CFCC by the Admissions Office before any aid can be granted.

Financial Aid recipients are required to maintain satisfactory progress toward completing a degree or diploma. Students will be given a copy of the policy which governs "satisfactory progress" at the time the financial aid award is made. Questions regarding financial aid should be made to the Financial Aid Office.

In addition to the Financial Aid programs listed below, there are numerous scholarships and a limited number of loans available to eligible students.

Grants

Pell Grants (Title IV)-formerly known as BEOG—This award is granted through the Federal Government for students in need of financial assistance as evidenced by needs analysis set by Federal standards. It does not have to be repaid. Depending upon the need factor and cost of education, Pell Grant awards range from $200 to $2400 yearly. You must apply each year.

Supplemental Educational Opportunity Grants (SEOG) (Title IV)—The SEOG is awarded by the College to students who have demonstrated financial need. It does not have to be repaid. The grant ranges from a minimum of $100 to a maximum of $4000 yearly, depending upon need and availability of funds. In order to be considered, a Financial Aid form must be submitted to College Scholarship Service for needs analysis. A College application for aid must also be filed in the Financial Aid Office.

North Carolina Student Incentive Grant Program (NCSIG)—Funds are provided by the North Carolina Education Assistance Authority to help needy students obtain their educational goal. Eligibility requirements are as follows: (1) must be a legal resident of North Carolina, (2) demonstrate substantial financial need, (3) be enrolled as a full time student, and (4) maintain satisfactory progress.

Other Financial Assistance

College Work Study (Title IV)—The College participates in the College Work Study Program, which provides the student with an opportunity to earn a portion of their college expenses by working while in school during the regular academic year. Those interested in this program should contact the Financial Aid Office located in the Division of Student Affairs.

Vocational Rehabilitation

Vocational Rehabilitation is a program operated through the Division of Vocational Rehabilitation in cooperation with the North Carolina Department of Administration. The Division finances such services as are necessary to enable a physically or mentally employment-handicapped person to become self supporting. Financial assistance is available for training at Cape Fear Community College for eligible handicapped persons. If a prospective student has a physical disability or is limited in his/her activity because of a disability, he/she should contact the nearest Division of Vocational Rehabilitation Office. The Division Office for North Carolina is located on 709 Market Street, Wilmington, NC.

Veterans Educational Benefits

This program assists veterans as well as widows and/or children of eligible deceased or disabled veterans.

The educational benefits available under the G.I Bill are administered by the Veterans Administration which also is the final authority for determining eligibility. These benefits are not only available to eligible veterans, but also the spouses and children of certain categories of living and deceased veterans, and to certain active duty military personnel, reservists and members of the National Guards.

Prospective students who believe they may be eligible for veteran benefits should contact the Veterans Affairs Office at the school for the address of the nearest Veterans Administration Office.

For detailed information about Veterans Educational Benefits, contact the campus Veterans Affairs Office in S-202, M.J. McLeod Building, or the nearest Veterans Administration field office.

Attendance and Tardiness

The nature of the programs for students is such that it is necessary that students be in regular attendance to obtain maximum benefit from their courses. Students should aspire to a perfect attendance record at all times.

Standards of attendance must be established to provide student accountability required by various agencies associated with CFCC and to encourage student participation for the greatest possible benefit to the student.

In addition to any other requirements, students must be in attendance at least 80% of the clock-hours of a course to receive credit. Those who do not meet minimum attendance requirements will be given the grade of "NC" (No Credit), which will be computed in the student's grade point average as a failing grade. Attendance and tardiness in some curricula may be more restrictive than overall school policy.

Special note to Marine Technology students: Students in the Marine Technology curriculum are at times involved in cruises on the ship that might take place during a holiday or quarter break during which time students are normally off. When such occurs, students must participate in the cruise.

Grading

Grading is done by the traditional method of "A" through "D", along with negative categories such as "F" (Failure), "WF" (Withdraw Failing) and "NC" (No Credit, Irregular Withdrawal). A full explanation of grading and grade point averaging is addressed in the **STUDENT HANDBOOK** which is given to all new students. Interested prospective students can obtain a copy of the "Handbook" by writing the Dean of Student Affairs.

GRADE	SIGNIFICANCE	QUALITY POINTS PER QUARTER HOUR
A	Superior	4
B	Good	3
C	Average	2
D	Poor	1
F	Failure	0
I	Incomplete	0
AU	Audit	0
W	Withdraw	0
WP	Withdraw Passing	0
WF	Withdraw Failing	0
NC	No Credit	0
S*	Satisfactory	0
U*	Unsatisfactory	0
CR	Credit by Exam	0
CT	Credit by Transfer	0
NS	Never Attended	0

*Grades assigned to developmental courses do not count toward graduation requirements

Incomplete Grades

Incomplete will be given only when circumstances justify additional time to complete the course. An incomplete must be removed within six weeks following the first day of the next quarter it was received. Grades not made up within six weeks will be recorded as an "F."

Grade Appeal Policy

The College grade appeal policy can be found in the Student Handbook.

Quarter Hour Credit

Each course listed is followed by a notation on the number of quarter hours it carries. Normally, the number of quarter hours earned is based on the number of class, laboratory or shop hours spent under the supervisor or the course instructor per week for the quarter. Usually one quarter hour credit is given for each lecture hour of class per week, for each two hours of laboratory work per week, or for each three hours of shop or manipulative laboratory per week. (A class hour is usually defined as 50 minutes of instruction.) Exceptions may be made in cases where specific classification is not feasible.

Course Repeat Policy

Courses with earned grades of "D", "F", "NC", or "WF" may be repeated. Courses with an earned grade of "C" or better may be repeated one time with special permission from an Admissions Counselor. In general, students should consult an Admissions Counselor before registering to repeat a course.

When a course has been repeated, the higher grade will be used in GPA calculation. However, it is the responsibility of students who repeat classes to complete the necessary paperwork to have their academic transcripts evaluated. (The appropriate forms, "Request for Transcript Review", are available through the Admissions office). Lower grades will be removed from GPA calculation; however, these grades will continue to appear on the academic transcript. Students may repeat a course a maximum of two times. When a course has been repeated twice, the highest of the three attempts will be used in GPA calculation.

Students who receive veterans benefits or financial aid should be advised that they may not receive funds for repeating courses which they have already passed.

Also, students who have received a degree from CFCC should be advised that the policy will not apply to courses which were taken to fulfill previous graduation requirements. A final student GPA (Grade Point Average) is computed at time of graduation, and this GPA may not be recalculated as courses are repeated.

The above stated course repeat policy will be effective as of the Fall quarter, 1991.

Requirements for Graduation

To receive the Associate in Applied Science Degree, the Associate in General Education Degree, or a Diploma, a student must maintain satisfactory grades in all laboratory and class subjects and an overall "C" average or a grade point average of at least 2.00. Degree recipients must earn a minimum of 32 quarter hours credit at Cape Fear Community College. ***Graduating students should file an application for graduation with the Registrar's Office during the Fall quarter prior to Spring and Summer graduation.*** (See **STUDENT HANDBOOK** for full explanation of Grade Point Average.)

Scholastic Honors

President's List
Full time (12 or more quarter hours credit) students who have earned a grade point average of 4.00 will be placed on the President's List.

Dean's List
Full time (12 or more quarter hours credit) students who have earned a grade point average of 3.50 with no grade lower than "C" will be placed on the Dean's List.

Graduation with High Honors
Graduating students who have achieved an A average, defined as a cumulative quality point average of 4.0, are recognized each year at graduation exercises as having graduated with high honors.

Graduation with Departmental Honors
Those members of the graduating class who have demonstrated outstanding leadership, attitude, and ability will be graduated with departmental honors. Since these are departmental awards, recipients are selected by lead instructors in cooperation with appropriate faculty members.

Academic Requirements

Each student is expected to make satisfactory progress toward obtaining a degree or diploma. At the end of each quarter, a student's Grade Point Average (GPA) is examined. The minimum accumulative GPA for remaining in good standing is as follows:

Attempted Credit Hours	Diploma	Degree
1 - 23	1.25	1.25
24 - 40	1.40	1.40
41 - 59	1.70	1.55
60 - 80	2.00	1.75
81 - 100		1.90
101 -		2.00

Probation and Suspension

Academic
A student who falls below the accumulative GPA requirements will be placed on academic probation for the following quarter. A student placed on academic probation will be notified in writing by the Admissions Office. A student on academic probation should schedule a conference with a counselor after he or she is notified about his or her probationary status. Any student on probation who fails to make satisfactory improvement during the following quarter may be suspended or advised to enter a more appropriate program. Upon request, a student suspended for academic reasons may be readmitted if, after a conference with a counselor, it is determined that the student would benefit from continued academic pursuit. Subsequent suspensions could result in the student not being readmitted again. However, it should be noted that some academic programs are more restrictive than others and may require approval of the department chair to be readmitted to a program following academic suspension.

Special Note To Persons Attending Under The G.I. Bill
At any time a student, attending school under the G.I. Bill, fails to meet the required accumulative GPA, that student will be placed on academic probation for a period of one quarter. If, at the end of the probationary period, the accumulative GPA is below that required by the College, the Veterans Administration will be notified that the student has been "de-certified" for G.I. Bill payment purposes. If such a student continues to attend CFCC, the Veterans Administration will be notified when the student has achieved an acceptable accumulative GPA. Recertification by the V.A. for pay purposes will be retroactive to the starting date of the quarter in which satisfactory progress resumed.

Conduct
Any student whose conduct becomes unsatisfactory may be placed on conduct probation; however, a student is subject to immediate suspension if deemed necessary by the Dean of Student Affairs. Any misconduct after a person is placed on conduct probation will result in prompt suspension.

Right of Appeal

Any student who is dismissed from school for academic or disciplinary reasons may have his or her case reviewed by requesting such through the Dean of Student Affairs, who, in turn, will bring his or her case before the Admissions and Student Affairs Advisory Committee. The appeal may be carried to the Board of Trustees at the student's request.

Transcript of Records

Upon request of the student, a transcript of credits earned at Cape Fear Community College only will be sent to other schools and/or industry. There is no charge for this service. Requests should be made in writing to the Registrar's Office.

Counseling Services

Qualified counselors are available to assist students in selecting an appropriate course of study, to provide occupational and educational information, and to discuss scholastic or personal problems which may arise.

Career and Testing Service

The major function of Career and Testing Services is to provide career counseling, job information , and testing to applicants, students and graduates.

Career Planning

Career planning services made available through the office of Career and Testing Services are: special help in the development of job search techniques; information about present and future employment trends; statistical information about graduates' employment; business/industry literature and directories; and administration and interpretation of NC CAREERS, a computerized career decision-making program.

Job Information

The job information function of the office, with the help and support of faculty and staff, is to assist students and graduates in securing job positions in their chosen fields; also the office assists students in finding part-time employment while they are in school. To maintain information about current job openings, frequent contact is made with local businesses and industries. Also, Career and Testing Services coordinates on-campus company recruitment of students and CFCC alumni throughout the year.

Assessment Testing

The purpose of CFCC assessment testing is to provide the school's admissions counselors with information about applicants' reading, writing, and math skills. These scores, along with other admissions information, enable counselors to assist students in deciding on courses and/or programs of study. For applicants who have not yet achieved college level skills in reading, writing, and mathematics, the College offers developmental courses as well as the services of the Center for Academic Enhancement. Through assessment testing, students will need to demonstrate proficiences in these areas prior to being admitted to some curricula. CFCC assessment tests are given frequently during the year. Times for testing vary (morning, afternoon, evening) in order to meet the needs of students.

Student Activities

Extra-curricular activities are a very important part of the total educational program. The school encourages the development of additional activities. Accordingly, CFCC has designed procedures for establishing clubs that are officially sanctioned by the school. These procedures may be found in the **STUDENT HANDBOOK.**

Intercollegiate activities depend on sport facilities available and student interest. From year to year, intercollegiate activities may include basketball, softball, golf, tennis, soccer and volleyball. Intramural activities offered by the College may include volleyball, chess, table tennis, and billiards.

The student government is a very active organization at this school. The voice of the student body paves the way for good lines of communication between the students and the administration.

The student newspaper and student handbook are among the publications done by the students. Students interested in any aspect of such publications are encouraged to participate.

Many students donate their time and energies to projects under the guidance of instructors and community leaders by participating in some type of service club.

The school is a member of the Eastern Carolina Community College Athletic Conference which includes eighteen other community colleges. There is presently an effort to form a state-wide Community College Athletic Conference.

Health Services

The following health services are provided through the Office of Student Affairs: (1) Minor first aid is available on campus. (2) Illness and injury that cannot be taken care of by individuals on campus will be reffered to community health facilities. (3) A drug abuse prevention program is sponsored by the school which includes distribution of available literature, providing audio visual materials, making available through the Library a limited number of current books on the subject, and a counseling service that refers students to local health professionals trained in the area of substance abuse. In case of illness or injury requiring transportation, the Student Affairs Office should be contacted immediately.

The Library

The LRC is located on the sixth floor of the M.J. McLeod Building. It currently has 27,000 books in the open-stack collection and subscribes to more than 608 magazines and newspapers. Other materials available for patron use include 7,000 rolls of microfilms of back issues of magazines and genealogical materials; approximately 2,000 out-of-print books in microfiche format; and several hundred maps and charts frequently utilized in the instructional programs. A collection of phonograph recordings is available for patron listening. The North Carolina Employment Security Commission Job Placement Service listing of current jobs in North Carolina is received by the LRC and is available for patron use in the microfiche section. Interlibrary loan service is available for all patrons. Typewriters, calculators, photocopy facilities, microfiche reader/printer are also available for patron use.

While the activities and materials collections of the LRC, for the most part, are related to the programs of instruction offered and exist primarily for the students, faculty, and staff of the College, and all adult residents of the area, particularly industrial employees, may utilize the LRC.

The Audio-Visual Service Center

The LRC Audio-Visual Service Center (AVSC) is located on the fifth floor, Room S-513, of the M.J. McLeod building. Currently the college maintains more than 2,975 units of instructional media and over 615 items of audio-visual equipment which are available for use by the faculty.

The major purpose of the AVSC is to support the educational efforts of the college. A Faculty Self-Help Center is available for media production by instructors. Students may request assistance through their classroom instructor.

Sexual Harassment

Discriminatory personal conduct, including sexual harassment toward any member of the College, is a violation of both State and Federal law and school policy and cannot be tolerated in the College community.

All members of this school community are expected and instructed to conduct themselves in such a way as to contribute to an atmosphere free of sexual harassment. Sexual harassment of any employee or student by any other employee or student is a violation of the policy of this school and will not be tolerated.

Requests for sexual favors and other unwelcomed verbal or physical conduct of a sexual nature by any employee or student constitutes sexual harassment when:

- submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, academic or student status, or
- submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting that individual, or
- such conduct has the purpose or effect of interfering with an individual's performance or creating an intimidating, hostile, or offensive environment in the work place or the classroom.

Any student who believes that he or she has been subjected to sexual harassment in violation of this policy should make a confidential complaint to one of the Student Affairs counselors. If this is not feasible, the student may take the complaint to the Dean of Student Affairs.

Grievance Procedure

If any student or prospective student feels that he or she has been discriminated against or denied service on the basis of race, color, national origin, religion, or sex, he or she should report such to the Dean of Instruction.

If any student or prospective student feels that he or she has been discriminated against or denied services on the basis of handicap, he or she should report such to the Dean of Instruction, who is the Section 504 Coordinator.

Dress

Where special dress or safety devices are required by the College, Department of Community Colleges regulations, or public law, the student will be expected to conform. Students are expected to maintain good personal grooming consistent with the ordinary requirements of industry.

Conduct

It is expected that at all times the student will conduct himself/herself as a responsible adult. Participation in any activity which, in the opinion of the administration, disrupts the educational process or functioning of the college may result in disciplinary action. Specific violations of conduct include, but are not limited to the following:

a. destruction of school property
b. stealing
c. cheating
d. gambling
e. use of profane language
f. engaging in personal combat
g. possess or carry, whether openly or concealed, any weapon on campus; the only exception to this directive

is in the case where training or job requirements of the students or employee requires that such be carried
h. possession and/or use of alcoholic beverages
i. possession and/or use of any drug as defined under the North Carolina Controlled Substance Act, G.S. 89-90 through G.S. 90-94.

The State of North Carolina has issued procedures to be followed in cases of disruptive conduct. Therefore, such prescribed procedures will be followed at all times.

Violation of these rules of conduct will not be tolerated in or on any part of the campus, its satellites, equipment it operates, or wherever its employees or students are required to be while performing their duties as students or employees. Any violation of these standards of behavior may result in dismissal from the College.

Classroom rules will be designated by instructors or supervisors and must be followed by all.

Weapons on Campus

It is unlawful for any person to possess or carry, openly or concealed, any weapon on campus. The only exception made to this directive is in the case where training or job requirements of the student or employee requires that such a weapon be carried.

Crime Awareness and Campus Security Policy

I. Cape Fear Community College adheres to the following Crime Awareness and Campus Security Policy.

A. In case of an accident, illness, criminal actions, and other emergencies, the Student Affairs Division must be notified immediately. (If any of the above situations occur at any campus site (example: Pender County Satellite) the appropriate Director of that location must be notified).

B. The Dean of Administrative Services or the Director is responsible for security and access to all campus facilities.

C. Campus law enforcement is handled by a local security agency after 5:00 PM. Enforcement before 5:00 PM is handled by appropriate Deans and Directors. When further action is necessary they in turn report to local city police or county law enforcement.

D. Violations involving the possession, use, and sale of alcoholic beverages, possession and/or use of any drug as defined under the N.C. Controlled Substance Act will not be tolerated in or on any part of the campus, its satellites, equipment it operates, or wherever its employees or students are required to be while performing their duties as students or employees. Any violation of these standards of behavior may result in dismissal from the college.

E. All incidents (crime and security) must be reported to the Dean of Students (day) or Evening Administrator (night) and/or campus security guards.

F. All incidents (crime and security) must be reported on the appropriate form and turned in to the Dean of Student Affairs.

II. Security Operations

A. Cape Fear Community College (CFCC) has a contract with a local, professional security firm to provide security on our Wilmington campus after 5:00 PM each weekday and all day on Saturdays. Security services are also provided anytime the school is closed but classes are being held. Two guards are assigned to the downtown campus and one guard is assigned at Roland Grise Middle School when Literacy classes are being held there. At the downtown campus, one guard is assigned to the "A" Building, "W" Building and rear parking lot. The other guard is assigned to the "S" Building, Front Street area, and the CP&L parking lot. The E&I Building is patrolled now and the ADN Building will be patrolled if classes are ever held at night.

B. The guards have portable radios and are constantly patrolling. Should any "event" happen, the guards are to contact the City of Wilmington Police (station is one-half block away) and then try to control "event" until police arrive. Any student requesting a security escort to their car at night is provided with an escort. Daytime security is the responsibility of the daytime staff. "Events" are reported to the appropriate dean after the situation is under control.

III. Information concerning crime awareness and campus security procedures and practices are disseminated to students and employees through the following:

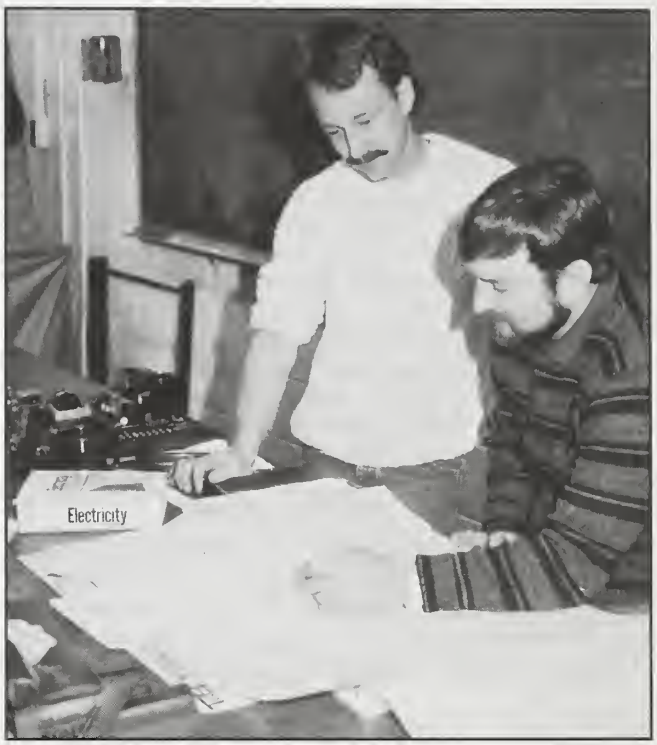
A. Faculty and staff handouts.
B. Student handbook.
C. Catalog.
D. Orientation.
E. Handouts.

IV. Information data on crime and security violations will be collected starting August 1, 1991. Results of data will be reported and available for distribution to interested parties beginning September 1, 1992.

Developmental Studies

It is not uncommon for a student to enter college who, for some reason, is deficient in the basic skills of reading, English, and/or mathematics. Recognizing this and being committed to making every opportunity available for students to help ensure their success, the school established a Developmental Studies program. This program is designed to help students gain the necessary skills in reading, English, and/or mathematics that will allow them to enter the curriculum program of their original choice. Successfully passing these developmental courses will help ensure that the student has the basic skills in reading, English, and/or mathematics to function at the required entry level. These courses are required for those students who have been identified by the Admissions Office as needing enhancement in reading, English, and/or mathematics.

Developmental courses earn credit; however, such credit does not apply toward the required hours for receiving a degree or certificate. Developmental courses are graded as "S", Satisfactory, or "U", Unsatisfactory. A satisfactory "S" grade is required in these course offerings before an individual will be allowed to enter the math and/or English sequence for which the developmental course is required (See Technical or Trade Course Descriptions for details.)



Cooperative Education

Cape Fear Community College anticipates offering Cooperative Education (Co-op.) in several of its programs beginning in the fall of 1993. Co-op. offers an extension and application of classroom instruction through a supervised work experience that is related to the student's educational goals.

Alumni

The purpose of the Alumni Association is to provide for the continued growth and development of the College and to foster interest and fellowship among the alumni. Membership is open to anyone who has attended CFCC.

COLLEGE TRANSFER & GENERAL EDUCATION

CAPE FEAR COMMUNITY COLLEGE
AUTHORIZED PROGRAMS

		Code	Day	Evening	Degree Certificate
1	College Transfer	C011	*	*	AA
2	General Education	G020	*	*	AGE

AA - Associate in Arts degree AGE - Associate in General Education degree
See pages 37 to 72 for course descriptions.

College Transfer

The College Transfer program is designed to provide a broad background in the core courses of a liberal arts curriculum comprising the first two years of a four-year baccalaureate degree in major areas other than the fine arts or the sciences.

All college level courses that a student completes with a "C" or better grade will generally transfer to most senior institutions. However, since requirements vary, it is the responsibility of each student to determine the specific requirements of the senior institution to which he or she plans to transfer. The student should also be advised that while individual courses may be considered for transfer credit, most institutions give preference to applicants who have completed the Associate in Arts degree.

A student is eligible to be granted the Associate in Arts degree upon completion of 96 quarter hours credits including all required minimums outlined in the following listing. Only courses numbered 150 to 199 and 250 to 299 may be included for credit in this program.

Basic Studies Requirement			Required Quarter Hour Credit
Communication			**10**
ENG	151	Composition I	5
ENG	152	Composition II	5
Humanities and Fine Arts			**15**
Select one course each from three of the following areas:			
1. ART	151	Art History and Appreciation	5
ART	155	Beginning Painting	5
MUS	150	Survey of Music Literature	5
MUS	151	Music History	5
2. ENG	160	Introduction to Literature	5
ENG	251	Great British Writers II	5
ENG	263	Great American Writers I	5
ENG	275	World Literature I	5
3. PHI	150	Introduction to Philosophy	5
REL	150	Introduction to Religion	5
REL	250	Religion in America	5
4. FRE	150	French I	5
FRE	151	French II	5
Mathematics			**5**
Select one course from the following:			
MAT	150	College Mathematics I	5
MAT	160	College Algebra	5
MAT	190	Precalculus	5
MAT	250	Calculus I	5
Natural Sciences			**12**
Select one of the following two 12 quarter hour credit sequences:			
1. BIO	150	General Biology I	6
BIO	151	General Biology II	6
2. PHY	150	College Physics I	4
PHY	151	College Physics II	4
PHY	152	College Physics III	4
Physical Education			**3**
PED	150	Foundations of Physical Activity	3
Social and Behavioral Sciences			**15**
Select one history course from the following:			
HIS	150	Western Civilization I	5
HIS	151	Western Civilization II	5
HIS	250	American History I	5
HIS	251	American History II	5

Select one course from two of the following three areas:

1.	POL	150	American National Government	5
	POL	250	American State and Local Government	5
2.	PSY	150	Introduction to Psychology	5
3.	SOC	150	Introduction to Sociology	5

Total Basic Studies Requirement in Quarter Hours 60

Electives
Any of the courses listed above which are not used to meet the basic studies requirement may be used as electives. In addition the following courses are approved electives.

ANT	150	Introduction to Anthropology	5
CJC	150	Introduction to Criminal Justice	5
ECO	150	Principles of Microeconomics	5
ECO	151	Principles of Macroeconomics	5
EDU	250	Teacher, School, and Society	5
ENG	250	Folklore	5
ENG	252	Great British Writers II	5
ENG	264	Great American Writers II	5
ENG	276	World Literature II	5
FRE	152	French III	5
GEO	150	Introduction to Physical Geography	5
MAT	151	College Mathematics II	5
MAT	161	College Trigonometry	5
MAT	165	Introduction to Statistics	5
MAT	251	Calculus II	5
PHO	150	Introduction to Photography	3
PSY	250	Human Growth and Development	5
SOC	250	Sociology of the Family	5
SOC	260	Sociology of Deviant Behavior	3
SOC	265	Sociology of Juvenile Delinquency	3
SOC	270	Modern Social Problems	5
SPH	150	Introduction to Speech	5
SWK	150	Introduction to Social Work	5

Total Electives Requirement in Quarter Hours 36

TOTAL REQUIREMENT IN QUARTER HOURS 96

Some four year colleges require foreign language courses and additional humanities and mathematics courses for either junior standing or a baccalaureate degree. Also, some colleges may not accept certain of the listed elective courses for transfer credit. For this reason, students planning to transfer should check the requirements and transfer policies of the four year institution they wish to attend and select courses accordingly.

General Education

IMPORTANT NOTICE: In past years, General Education students, through special agreements, have been able to gain college credit for technical courses taken at CFCC. Starting in the Fall of 1992, a new curriculum, the College Transfer program, will become the appropriate program in which to pursue transfer with the Associate in Arts degree. While a grace period will allow students already pursuing the General Education degree to gain college credits through the older special agreements, applicants interested in beginning a college transfer curriculum should select the College Transfer program. Students who have not begun the General Education program before the fall quarter of 1992 may apply no more than 80 quarter hours credit taken in courses numbered 150-199 or 250-299 toward the General Education degree.

The General Education program is designed for those students who desire a basic exposure to the areas of English, literature, fine arts and philosophy, social science, and science and mathematics and who would like to tailor their educational goals to personal interests rather than to specific professional requirements.

The General Education program offers two alternatives for students: first, to pursue of an Associate in General Education degree (a two-year degree), which will take approximately six quarters; and, second, to provide academic enrichment.

Individuals who want to explore a subject for their own enrichment and pleasure may enroll as special students (those who are not seeking a degree). Such students may elect to take as little as one course each quarter. Classes may be scheduled during the day or evening to minimize conflicts with work schedules. Each General Education program student will be offered special assistance in planning an education program and in relating the program to his/her personal goals.

A student is eligible for the Associate in General Education degree (AGE) upon the completion of 96 quarter hours credit. These hours must be comprised of courses from the following categories. Each category has a prescribed minimum number of credits, and there are a few required courses marked by an asterisk.

CREATIVE ARTS			**Credit Hours**
(A minimum of five (5) quarter hours credit)			
ART	151	Art History and Appreciation	5
ART	155	Beginning Painting	5
ENG	207	Poetry Writing	5
MUS	150	Survey of Music Literature	5
MUS	151	Music History	5
PHO	110	Introduction to Photography	2

PHYSICAL EDUCATION
(A minimum of three (3) quarter hours credit)

*PED	150	Foundations of Physical Activity	3

HUMANITIES
(A minimum of fifteen (15) quarter hours credit must be taken comprised of at least two areas in addition to those required courses marked by an asterisk.)

*ENG	101	Grammar	3
*ENG	102	Composition	3
*ENG	103	Report Writing	3
ENG	104	Reading and Composition	3
ENG	160	Introduction to Literature	5
ENG	114	Oral Communication	3
ENG	151	English Composition I	5
ENG	152	English Composition II	5
ENG	250	Folklore	5
FRE	150	French I	5
FRE	151	French II	5
FRE	152	French III	5
HIS	150	Western Civilization I	5
HIS	151	Western Civilization II	5
HIS	250	American History I	5
HIS	251	American History II	5
REL	150	Introduction to Religion	5
REL	250	Religion in America	5

NOTE: ENG 151 and ENG 152 meet the requirement for ENG 101, 102, and 103.

NATURAL SCIENCE AND MATHEMATICS
(A minimum of twelve (12) quarter hours credit must be taken comprised of at least two areas, including one laboratory science course. This is in addition to those required courses marked by an asterisk (*).)

BIO	101	Human Anatomy and Physiology I	5
BIO	107	Human Anatomy and Physiology II	5
BIO	121	Anatomy and Physiology I	6
BIO	122	Anatomy and Physiology II	6
BIO	123	Microbiology	6
BIO	150	General Biology I	6
BIO	151	General Biology II	6
ACC	120	Accounting I	6
ACC	121	Accounting II	6
CHM	101	Introduction to Chemistry	5
CHM	114	Basic Chemical Concepts I	7
CHM	115	Basic Chemical Concepts II	7
CHM	118	Basic Chemistry	3
GEL	101	Marine Geology	4
GEL	102	Geology of the Oceans	4
GEO	150	Introduction to Physical Geography	6
*MAT	121	Technical Mathematics	5
MAT	122	Technical Mathematics	5
MAT	123	Technical Mathematics	5
MAT	150	College Mathematics I	5
MAT	160	College Algebra	5
MAT	190	Precalculus	5
MAT	250	Calculus I	5
MAT	251	Calculus II	5
PHY	101	Physics: Properties of Matter	4
PHY	102	Physics: Work, Energy and Power	4
PHY	103	Physics: Electricity	4
PHY	104	Physics: Light and Sound	4
PHY	105	Physics: Heat and Fluids	4

NOTE: MAT 150, 160, 190, or 250 meet the requirement for MAT 121.

SOCIAL AND BEHAVIORAL SCIENCES
(A minimum of five (5) quarter hours credit)

ANT	150	Introduction to Anthropology	5
CJC	150	Introduction to Criminal Justice	5
ECO	102	Economics I	3
ECO	104	Economics II	3
ECO	108	Consumer Economics	3
ECO	151	Principles of Macroeconomics	5
EDU	250	Teacher, School, and Society	5
EDU	205	Teaching Methods	2
POL	150	American National Government	5
POL	250	American State and Local Government	5
PSY	102	Introduction to Psychology	3
PSY	150	Introduction to Psychology	5
PSY	250	Human Growth and Development	5
SOC	102	Principles of Sociology	3
SOC	103	American Institutions	3
SOC	150	Introduction to Sociology	5
SOC	250	Sociology of the Family	5
SOC	260	Sociology of Deviant Behavior	3
SOC	265	Sociology of Juvenile Delinquency	3

In addition to the courses already listed any course numbered 150-199 or 250-299 may be selected as an elective for General Education.

Quarter Hours Credit Needed for the Associate in General Education Degree

Required five course (marked with asterisk)	17
Creative Arts	5
Humanities	15
Physical Education (part of 17 required quarter hours credit)	
Natural Sciences and Mathematics	12
Social and Behavioral Sciences	5
Sub Total	54
Student Selection	42
Total for Associate in General Education Degree	96

TECHNICAL CURRICULA

Technicians are among the fastest growing occupational groups in the United States. In recent years, the needs of an expanding and increasingly technical economy have greatly intensified the demand not only for engineers and scientists, but also for the technical workers who assist them. Technicians are those workers whose jobs require both knowledge and use of scientific and mathematical theory, specialized education or training in some aspect of technology or science, and work, with scientists and engineers. Some jobs held by these technicians are supervisory and require both technical knowledge and the ability to supervise people.

In carrying out their assignment, engineering and science technicians frequently use complex electronic and mechanical instruments, experimental laboratory apparatus, and drafting instruments. These workers engage in virtually every aspect of engineering and scientific work. In research, development, and design work they conduct experiments or tests; set up, calibrate, and operate instruments; and make calculations. They also assist scientists and engineers in developing experimental equipment and models by making drawings and sketches and frequently do some design work.

Technicians also work in jobs related to production. They may aid in the various phases of production operations, such as working out specifications for materials and methods of manufacturing, devising tests to insure quality control of products, or making time-and-motion studies (timing and analyzing the worker's movements) designed to improve the efficiency of a particular operation. They may also perform liaison work between engineering and production or other departments.

Cape Fear Community College provides training in a number of areas which require training beyond the high school, but do not require four years of college preparation. Most of the technical programs are six quarters in length and are geared to train a person in specific technical areas. Students spend twenty to thirty hours per week in classroom and laboratory work; additional time will be needed for outside assignments.

The Associate in Applied Science degree is awarded to students who complete a technical program. To be eligible for the degree, a student must maintain satisfactory grades in all laboratory and class subjects and an overall grade point average of 2.00.

Credit hours granted in the various technical programs are not transferrable to other institutions except as an institution may determine that a particular course and credits are applicable to a curriculum offered by that school.

CAPE FEAR COMMUNITY COLLEGE
AUTHORIZED PROGRAMS

		Code	Day	Evening	Degree	Certificate
1	Accounting	T016	*	*	AAS	
2	Administrative Office Technology	T030	*	*	AAS	*
3	Associate Degree Nursing (Registered Nursing)	T059	*		AAS	
4	Basic Law Enforcement Training	T189	*			*
5	Business Administration	T018	*	*	AAS	
6	Chemical Technology	T037	*		AAS	
7	Computer Engineering Technology	T040	*	*	AAS	
8	Criminal Justice	T129	*	*	AAS	
9	Drafting and Design Engineering Technology	T043	*	*	AAS	
10	Electronics Engineering Technology.	T045	*	*	AAS	
11	Instrumentation Technology	T048	*	*	AAS	
12	Manufacturing Engineering Technology	T050	*		AAS	
13	Marine Technology	T085	*		AAS	
14	Medical Record Technology	T053	*	*	AAS	
15	Microcomputer Systems Technology	T192	*	*	AAS	*
16	Paralegal Technology	T120	*	*	AAS	
17	Real Estate (Technical Specialty)	T166		*		*
18	Real Estate Appraisal	T224		*		*

AAS - Associate in Applied Science degree
Electives are to be chosen only from the Technical section of the catalog.
See pages 37 to 72 for course descriptions.

Electronic Curricula at Cape Fear Community College

Cape Fear Community College offers three curriculum programs in electronics: Computer Engineering Technology, Electronics Engineering Technology, and Instrumentation Technology. The Computer Engineering Technology and Electronics Engineering Technology programs share a common core group of courses which, for a full-time student, are normally taken by the student during the first four quarters. The Instrumentation Technology students change to their specialty courses beginning with the third quarter. During the fifth through the seventh quarters, all students take courses in the specialization of his or her choice.

Listed below is the core group of courses which cover the first through the fourth quarters, followed by an abbreviated listing of the courses for the fifth through the seventh quarters of each curriculum.

In addition to the general admission requirements, at least one year of high school algebra or the equivalent is required for admission to the electronics programs.

FIRST QUARTER		**Credit Hours**
ELC 107	Electricity I	6
ELN 102	Electronic Fabrication Techniques	1
ENG 101	Grammar	3
MAT 121	Technical Mathematics	5
		15
SECOND QUARTER		
ELC 108	Electricity II	5
ELN 106	Electronics I	5
ENG 102	Composition	3
MAT 122	Technical Mathematics	5
		18
THIRD QUARTER		
ELC 109	Electricity III	5
ELN 107	Electronics II	5
MAT 123	Technical Mathematics	5
**PHY 101	Physics: Properties of Matter	4
		19
*CHM 118	Basic Chemistry	3
		18
FOURTH QUARTER		
DFT 100	Technical Drafting	2
ELN 108	Electronics III	5
ELN 121	Digital Electronics 1	5
ENG 103	Report Writing	3
**PHY 102	Physics: Work, Energy, and Power	4
		19
*PHY 100	Introductry Physics	5
		20

*FOR INSTRUMENTATION TECHNOLOGY ONLY
**NOT REQUIRED FOR INSTRUMENTATION TECHNOLOGY

COURSES FOR SPECIALIZATIONS

Computer Engineering Technology	Electronics Engineering Technology	Instrumentation Technology
5TH QUARTER	**5TH QUARTER**	**5TH QUARTER**
CSC 201	CSC 201	ELN 122
ELN 122	ELN 122	ELN 224
ELN 237	ELN 202	ELN 227
ELN 240	ELN 204	ELN 236
ELN 243	ELN 236	PHY 105
PSY 102	PSY 102	PSY 102
Elective	Elective	Elective
6TH QUARTER	**6TH QUARTER**	**6TH QUARTER**
CSC 210	ELN 205	ELN 221
ELN 221	ELN 231	ELN 225
ELN 244	ELN 238	PHY 104
ELN 245	ENG 114	SOC 102
ENG 114	SOC 102	
SOC 102		
7TH QUARTER	**7TH QUARTER**	**7TH QUARTER**
BUS 237	ELN 206	ELN 223
ELN 222	ELN 220	ELN 226
ELN 239	ELN 235	ENG 114
ELN 247	PHY 104	SOC 103
ELN 249	SOC 103	Elective
Elective	Elective	

For a detailed description of each of the above curriculums, refer to the alphabetized listing of curriculums in the green section of the catalog.

Accounting

The purpose of the Accounting curriculum is to prepare the individual to enter the accounting profession through study of accounting principles, theories and practices with related study in law, finance, management and data processing operations.

The curriculum is designed to prepare the individual for entry-level accounting positions, such as junior accountant, bookkeeper, accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, the individual will be able to advance to positions such as system accountant, cost accountant, budget accountant and property accountant.

FIRST QUARTER			Credit Hours
BUS	113	Mathematics of Finance	5
BUS	115	Business Law I	5
CAS	101	Computer Familiarization	3
ECO	102	Economics I	3
ENG	101	Grammar	3
			19

SECOND QUARTER			
ACC	120	Accounting I	6
BUS	116	Business Law II	5
ECO	104	Economics II	3
ENG	102	Composition	3
OSC	105	Keyboarding	3
			20

THIRD QUARTER			
ACC	121	Accounting II	6
BUS	114	Business Statistics	3
ENG	114	Oral Communication	3
OSC	222	Word Processing I	3
SOC	102	Principles of Sociology	3
___	___	Elective	3
			21

FOURTH QUARTER			
ACC	122	Accounting III	6
ACC	128	Computerized Accounting I	2
ACC	129	Taxes I	4
PSY	102	Introduction to Psychology	3
___	___	Elective	3
			18

FIFTH QUARTER			
ACC	220	Intermediate Accounting I	4
ACC	225	Cost Accounting I	4
ACC	228	Computerized Accounting II	2
ACC	230	Taxes II	4
BUS	123	Business Finance I	4
SOC	103	American Institutions	3
			21

SIXTH QUARTER			
ACC	221	Intermediate Accounting II	4
ACC	226	Cost Accounting II	4
BUS	124	Business Finance II	4
BUS	235	Business Management	3
CAS	235	Data Base Management	4
			19

Accounting
ASSOCIATE DEGREE PROGRAM

Suggested Sequence of Courses by Quarters for Evening Students

FIRST QUARTER			Credit Hours
BUS	113	Mathematics of Finance	5
ENG	101	Grammar	3
			8

SECOND QUARTER-WINTER			
ACC	120	Accounting I	6
ECO	102	Economics I	3
			9

THIRD QUARTER, SPRING			
ACC	121	Accounting II	6
ECO	104	Economics II	3
			9

FOURTH QUARTER-SUMMER			
ACC	122	Accounting III	6
OSC	105	Keyboarding	3
			9

FIFTH QUARTER-FALL			
BUS	115	Business Law I	5
CAS	101	Computer Familiarization	3
			8

SIXTH QUARTER-WINTER			
BUS	116	Business Law II	5
ACC	128	Computerized Accounting I	2
			7

SEVENTH QUARTER-SPRING			
ACC	228	Computerized Accounting II	2
BUS	114	Business Statistics	3
			5

EIGHTH QUARTER-SUMMER			
OSC	222	Word Processing I	3
ENG	102	Composition	3
			6

NINTH QUARTER-FALL			
ACC	129	Taxes I	4
CAS	235	Data Base Management	4
			8

TENTH QUARTER-WINTER			
ACC	230	Taxes II	4
PSY	102	Introduction to Psychology	3
			7

ELEVENTH QUARTER-SPRING			
ACC	220	Intermediate Accounting I	4
BUS	123	Business Finance I	4
			8

TWELFTH QUARTER-SUMMER			
ACC	221	Intermediate Accounting II	4
BUS	124	Business Finance II	4
			8

THIRTEENTH QUARTER-FALL			
ACC	225	Cost Accounting I	4
SOC	102	Principles of Sociology	3
			7

FOURTEENTH QUARTER-WINTER			
ACC	226	Cost Accounting II	4
ENG	114	Oral Communication	3
___	___	Elective	3
			10
FIFTEENTH QUARTER-SPRING			
BUS	235	Business Management	3
SOC	103	American Institutions	3
___	___	Elective	3
			9
TOTAL CREDIT HOURS			**118**

NOTE: Cape Fear Community College reserves the right to cancel classes due to insufficient enrollment.

Administrative Office Technology

This curriculum prepares individuals to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are taught in the areas of electronic document storage and retrieval and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as offices in local, state, and federal government.

FIRST QUARTER			**Credit Hours**
BUS	109	Professional Development	3
BUS	115	Business Law I	5
ENG	105	Grammar and Composition	4
OSC	105	Keyboarding	3
PSY	102	Introduction to Psychology	3
			18
SECOND QUARTER			
BUS	127	Business Mathematics	5
CAS	101	Computer Familiarization	3
ENG	106	Grammar and Composition	4
OSC	118	Document Production	3
SOC	102	Principles of Sociology	3
			18
THIRD QUARTER			
ACC	120	Accounting I	6
BUS	116	Business Law II	5
BUS	135	Advanced Business Mathematics	4
ENG	114	Oral Communication	3
___	___	Elective	3
			21
FOURTH QUARTER			
ACC	121	Accounting II	6
CAS	109	Database Processing I	3
CAS	130	Spreadsheet Applications I	4
OSC	222	Word Processing I	3
___	___	Elective	3
			19
FIFTH QUARTER			
ACC	129	Taxes I	4
CAS	200	Database Processing II	3
ECO	102	Economics I	3
OSC	223	Word Processing II	3
OSC	240	Comprehensive Machine Transcription	5
			18
SIXTH QUARTER			
ACC	230	Taxes II	4
CAS	211	Spreadsheet Applications II	4
ECO	104	Economics II	3
OSC	213	Office Procedures	2
OSC	217	Comprehensive Speedwriting	5
			18
SEVENTH QUARTER			
CAS	208	Desktop Publishing	3
OSC	220	Administrative Office Technology Internship 20 Co-op	2
ENG	103	Report Writing	3
			8

Administrative Office Technology
ASSOCIATE DEGREE PROGRAM

Suggested Sequence of Courses by Quarters for Evening Students

FIRST QUARTER			**Credit Hours**
BUS	127	Business Mathematics	5
OSC	105	Keyboarding	3
			8
SECOND QUARTER-WINTER			
BUS	135	Advanced Business Mathematics	4
ECO	102	Economics I	3
			7
THIRD QUARTER-SPRING			
CAS	101	Computer Familiarization	3
ECO	104	Economics II	3
			6
FOURTH QUARTER-SUMMER			
OSC	222	Word Processing I	3
BUS	109	Professional Development	3
			6

FIFTH QUARTER-FALL

ACC 120	Accounting I	6
ENG 105	Grammar and Composition	4
		10

SIXTH QUARTER-WINTER

ACC 121	Accounting II	6
ENG 106	Grammar and Composition	4
		10

SEVENTH QUARTER-SPRING

ACC 129	Taxes I	4
CAS 130	Spreadsheet Applications I	4
		8

EIGHTH QUARTER-SUMMER

ACC 230	Taxes II	4
CAS 211	Spreadsheet Applications II	4
		8

NINTH QUARTER-FALL

BUS 115	Business Law I	5
ENG 103	Report Writing	3
		8

TENTH QUARTER-WINTER

BUS 116	Business Law II	5
ENG 114	Oral Communication	3
___ ___	Elective	3
		11

ELEVENTH QUARTER-SPRING

CAS 109	Database Processing I	3
OSC 223	Word Processing II	3
		6

TWELFTH QUARTER-SUMMER

CAS 200	Database Processing II	3
OSC 118	Document Production	3
		6

THIRTEENTH QUARTER-FALL

OSC 217	Comprehensive Speedwriting	5
PSY 102	Introduction to Psychology	3
		8

FOURTEENTH QUARTER-WINTER

OSC 240	Comprehensive Machine Transcription	5
SOC 102	Principles of Sociology	3
		8

FIFTEENTH QUARTER-SPRING

OSC 213	Office Procedures	2
___ ___	Elective	3
		5

FOURTEENTH QUARTER-SUMMER

CAS 208	Desktop Publishing	3
OSC 220	Administrative Office Technology Internship	2
		5

TOTAL CREDIT HOURS **120**

NOTE: Cape Fear Community College reserves the right to cancel classes due to insufficient enrollment.

Administrative Office Technology
CERTIFICATE PROGRAM

Suggested Sequence of Courses by Quarters for Evening Students

FIRST QUARTER		**Credit Hours**
CAS 130	Spreadsheet Applications I	3
OSC 105	Computer Keyboarding	3
		6

SECOND QUARTER

CAS 101	Computer Familiarization	3
OSC 222	Word Processing I	4
		7

THIRD QUARTER

CAS 208	Desktop Publishing	4
CAS 223	Word Processing II	4
		8

FOURTH QUARTER

CAS 109	Database Processing I	3
OSC 240	Comprehensive Speedwriting	5
		8

TOTAL CREDIT HOURS **29**

NOTE: Cape Fear Community College reserves the right to cancel classes due to insufficient enrollment.

Associate Degree Nursing

The Associate Degree Nursing curriculum is designed to prepare graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by associate degree nursing graduates consists of assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens; recording and reporting the results of the nursing assessment; planning, initiating, delivering, and evaluating appropriate nursing acts; teaching, delegating to or supervising other personnel in implementing the treatment regimen; collaborating with other health care providers in determining the appropriate health care for a patient; implementing the treatment and pharmaceutical regimen prescribed by any person authorized by state law to prescribe such a regimen; providing teaching and counseling about the patient's health care; reporting and recording the plan for care, nursing care given, and the patient's response to that care; and supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a registered nurse.

Individuals desiring a career in registered nursing should take biology, algebra and chemistry courses prior to entering the program.

FIRST QUARTER			**Credit Hours**
BIO	121	Anatomy and Physiology I	6
NUR	101	Fundamentals of Nursing	7
PSY	150	Introduction to Psychology	5
			18
SECOND QUARTER			
BIO	122	Anatomy and Physiology II	6
CAS	101B	Computer Familiarization	2
NUR	102	Common Stressors in Medical-Surgical Nursing	9.3
			17.3
THIRD QUARTER			
BIO	123	Microbiology	6
NUR	103	Medical-Surgical Nursing I	9.3
PSY	250	Human Growth and Development	5
			20.3
FOURTH QUARTER			
NUR	104	Maternal-Child Nursing	11.3
NUR	105	Issues and Trends	2
			13.3
FIFTH QUARTER			
ENG	151	English Composition I	5
NUR	201	Psychiatric Nursing	8.3
NUR	202	Patient Care Management	1
			14.3
SIXTH QUARTER			
ENG	152	English Composition II	5
NUR	203	Medical-Surgical Nursing II	11
			16
SEVENTH QUARTER			
NUR	204	Medical-Surgical Nursing III	11
——	——	Humanities/Social Science Elective	5
			16

NOTE: Nursing courses with a clinical component may be switched from one quarter to another according to the availability of clinical space.

Basic Law Enforcement Training

The Basic Law Enforcement Training curriculum certificate program prepares individuals to take the Basic Training Law Enforcement Officers certification examination mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or it prepares individuals to take the Justice Officers Basic Training certification examination mandated by the North Carolina Sheriffs' Education and Training Standards Commission. Successful completion of this curriculum certificate program requires that the student satisfy the minimum requirements for certification by the Criminal Justice Commission and/or the Sheriffs' Commission. The student satisfactorily completing this program should possess at least the minimum degree of general attributes, knowledge and skills to function as an inexperienced law enforcement officer.

Job opportunities are available with state, county, and municipal governments in North Carolina. In addition, knowledge, skills and abilities acquired in this course of study qualify one for job opportunities with private enterprises in such areas as industrial, retail, and private security.

To be eligible to take this course you must be twenty (20) years of age if you are considering employment with a Police Department and twenty-one (21) years of age with the Sheriff's Department. Also, you will need a letter of sponsorship either from a Police or Sheriff's Department.

			Credit Hours
CJC	130	Law Enforcement Training (Clock Hours 394)	20
CJC	131	Police Officer Training (Clock Hours 22)	2
CJC	132	Deputy Sheriff Training (Clock Hours 33)	2
CJC	133	Physical Training (Clock Hours 44)	2
			26

Business Administration

The Business Administration curriculum is designed to prepare an individual for entry into management positions.

The curriculum develops competencies in the application of management principles. Emphasis is placed on skill development in the areas of management functions, computer applications and analysis, critical thinking and decision-making techniques, marketing, finance, legal aspects of business, oral and written communications, and the utilization of human resources.

Through the development of management competencies, the graduate will be able to function as a contributing member of a management team.

FIRST QUARTER			Credit Hours
BUS	115	Business Law I	5
BUS	127	Business Mathematics	5
ENG	105	Grammar and Composition	4
OSC	105	Keyboarding	3
SOC	102	Principles of Sociology	3
			20

SECOND QUARTER			
ACC	120	Accounting I	6
BUS	135	Advanced Business Mathematics	4
OSC	118	Document Production	3
ENG	106	Grammar and Composition	4
			17

THIRD QUARTER			
ACC	121	Accounting II	6
CAS	101	Computer Familiarization	3
ENG	104	Reading and Composition	3
ENG	114	Oral Communication	3
OSC	222	Word Processing I	3
___	___	Elective	3
			21

FOURTH QUARTER			
ACC	122	Accounting III	6
ACC	128	Electronic Spreadsheet I	2
ACC	129	Taxes I	4
ECO	102	Economics I	3
MKT	232	Sales Development	3
___	___	Elective	3
			21

FIFTH QUARTER			
ACC	228	Computerized Accounting II	2
ACC	230	Taxes II	4
BUS	123	Business Finance I	4
ECO	104	Economics II	3
MKT	239	Marketing	5
			18

SIXTH QUARTER			
ACC	125	Accounting IV	5
BUS	124	Business Finance II	4
BUS	235	Business Management	4
CAS	235	Data Base Management	4
PSY	102	Introduction to Psychology	3
			20

SPLIT COURSE - Upon completion of CAS 101-A and CAS 101-B, full credit will be given for CAS 101, Computer Familiarization.

CAS	101-A	Computer Familiarization	1
CAS	101-B	Computer Familiarization	2

Business Administration
ASSOCIATE DEGREE PROGRAM

Suggested Sequence of Courses by Quarters for Evening Students

FIRST QUARTER			Credit Hours
BUS	127	Business Mathematics	5
OSC	105	Keyboarding	3
			8

SECOND QUARTER-WINTER			
BUS	135	Advanced Business Mathematics	4
ECO	102	Economics I	3
			7

THIRD QUARTER-SPRING			
CAS	101	Computer Familiarization	3
ECO	104	Economics II	3
			6

FOURTH QUARTER-SUMMER			
MKT	239	Marketing	5
OSC	222	Word Processing	3
			8

FIFTH QUARTER-FALL			
ACC	120	Accounting I	6
ENG	105	Grammar and Composition	4
			10

SIXTH QUARTER-WINTER			
ACC	121	Accounting II	6
ENG	106	Grammar and Composition	4
			10

SEVENTH QUARTER-SPRING			
ACC	122	Accounting III	6
ACC	128	Computerized Accounting I	2
			8

EIGHTH QUARTER-SUMMER			
ACC	125	Accounting IV	5
ACC	228	Computerized Accounting II	2
			7

NINTH QUARTER-FALL			
BUS	115	Business Law 1	5
ACC	129	Taxes I	4
			9

TENTH QUARTER-WINTER			
ENG	104	Reading and Composition	3
ACC	230	Taxes II	4
			7
ELEVENTH QUARTER-SPRING			
CAS	235	Data Base Management	4
ENG	114	Oral Communication	3
			7
TWELFTH QUARTER-SUMMER			
BUS	235	Business Management	3
OSC	118	Document Production	3
			6
THIRTEENTH QUARTER-FALL			
BUS	123	Business Finance I	4
SOC	102	Principles of Sociology	3
			7
FOURTEENTH QUARTER-WINTER			
BUS	124	Business Finance II	4
PSY	102	Introduction to Psychology	3
			7
FIFTEENTH QUARTER-SPRING			
MKT	232	Sales Development	3
___	___	Elective	3
			6
SIXTEENTH QUARTER-SUMMER			
___	___	Elective	3
___	___	Elective	3
			6
TOTAL CREDIT HOURS			**118**

NOTE: Cape Fear Community College reserves the right to cancel classes due to insufficient enrollment.

Chemical Technology

The Chemical Technology curriculum prepares individuals as research assistants to chemists in the laboratory or as planning and production assistants to chemical engineers in actual industrial production.

Chemical technicians perform quantitative and qualitative chemical analyses of processes involved in research, production, or monitoring situations. They test samples of raw materials to determine that they are within specification limits required, analyze samples of finished products to determine quality and prepare laboratory test reports, check chemical analyses with specifications, and operate electronic laboratory equipment.

FIRST QUARTER			**Credit Hours**
CHM	114	Basic Chemical Concepts I	7
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
PSY	102	Introduction to Psychology	3
SAF	120	First Aid	3
			21
SECOND QUARTER			
CHM	115	Basic Chemical Concepts II	7
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
SOC	102	Principles of Sociology	3
___	___	Elective	3
			21
THIRD QUARTER			
BIO	110	General Biology	4
CHM	116	Descriptive Chemistry	5
CHM	130	Organic Chemistry I	3
ENG	103	Report Writing	3
PHY	101	Physics: Properties of Matter	4
			19
FOURTH QUARTER			
CHM	140	Unit Processes	7
CHM	150	Industrial Operations	5
___	___	Elective	3
			15
FIFTH QUARTER			
CHM	231	Organic Chemistry II	5
CHM	243	Industrial Analysis I (Qualitative)	3
ENG	114	Oral Communication	3
PHY	102	Physics: Work, Energy, and Power	4
			15
SIXTH QUARTER			
BIO	215	Microbiology	5
CHM	232	Organic Chemistry III	4
CHM	244	Industrial Analysis II (Quantitative)	4
PHY	103	Physics: Electricity	4
			17
SEVENTH QUARTER			
CHM	233	Biochemical Concepts	4
CHM	245	Industrial Analysis III (Quantitative)	6
PHY	105	Physics: Heat and Fluids	4
			14

Computer Engineering Technology

This program is intended to provide the skills required to install, service and maintain computers, microprocessor and computer controlled equipment and computer peripheral devices. The curriculum provides training in both the hardware and software areas of the computer field.

A sequence of introductory hardware courses provides the student with a strong background in physics, technical mathematics, electricity, electronics and digital logic circuits and concepts. Advanced course work provides a detailed study of the logic of the central processing unit, the operation of integrated circuits in the central processing unit, the operation and use of integrated circuit memory devices, and the interfacing of the central processing unit to memory devices. Additional studies cover interfacing the central processing unit to external devices using both serial and parallel data transfer, the operation of large scale integrated programmable interface units and their interfacing with the central processing unit, and the operation of computer peripheral devices such as video displays, printers, floppy disk storage systems, magnetic type units, keyboards and the techniques of converting signals between the analog and digital forms.

The programming course work provides a sequence of study stressing good program design techniques and structured programming, and program documentation. Rather than being familiar with a large number of programming languages, the student is expected to learn well a highly structured language, such as QBASIC, and an Assembly Language. The importance of Assembly Language to the understanding of the operation of the central processing unit and the related computer units is stressed. Computer operating system concepts are discussed to provide an unified view of the hardware and software aspects of the computer system.

Prerequisites: In addition to general admissions requirements, at least one year of high school algebra or the equivalent is required.

FIRST QUARTER			**Credit Hours**
ELC	107	Electricity I	6
ELN	102	Electronic Fabrication Techniques	1
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
			15
SECOND QUARTER			
ELC	108	Electricity II	5
ELN	106	Electronics I	5
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
			18
THIRD QUARTER			
ELC	109	Electricity III	5
ELN	107	Electronics II	5
MAT	123	Technical Mathematics	5
PHY	101	Physics: Properties of Matter	4
			19
FOURTH QUARTER			
DFT	100	Technical Drafting	2
ELN	108	Electronics III	5
ELN	121	Digital Electronics I	5
ENG	103	Report Writing	3
PHY	102	Physics: Work, Energy, and Power	4
			19
FIFTH QUARTER			
CSC	201	BASIC Language Programming I	3
ELN	122	Digital Electronics II	3
ELN	240	Computer Project (Digital)	2
ELN	237	Introduction to Computer Systems	2
ELN	243	Computer Electronics	1
PSY	102	Introduction to Psychology	3
——	——	Elective	3
			17
SIXTH QUARTER			
CSC	210	BASIC Language Programming II	3
ELN	221	Microprocessors I	4
ELN	244	Computer Project (Microprocessor)	2
ELN	245	Peripheral Devices	5
ENG	114	Oral Communication	3
SOC	102	Principles of Sociology	3
			20
SEVENTH QUARTER			
BUS	237	Principles of Supervision	3
ELN	222	Microprocessors II	5
ELN	239	Computer Systems	4
ELN	247	Computer Project (Microcomputer)	1
ELN	249	Computer Interfacing	1
——	——	Elective	3
			17

Criminal Justice-Protective Service Technology

The Criminal Justice Technology curriculum is designed so that it may be a multi-faceted program of study. It may consist of study options in corrections, law enforcement and security services.

The curriculum is designed with a core of courses to afford one the opportunity to acquire basic knowledge, skills and attitudes in the generally accepted subject areas associated with a two-year study of correctional services, law enforcement services and security services. It includes subjects such as interpersonal communications, law, psychology and sociology.

In addition to core subjects, the correctional services option provides an opportunity to study other generally accepted subjects indigenous to a two-year correctional services program such as confinement facility administrations, correction law, counseling, probation-parole services and rehabilitation options. Similarly, the law enforcement option provides an opportunity to study other generally accepted subjects included in a two-year law enforcement services program such as criminal behavior, criminal investigation, patrol operation, traffic management, and other aspects of law enforcement administration and operations. The security services option provides an opportunity to study other generally accepted subjects related to a two-year security services program such as accident prevention and safety management, common carrier protection, fire prevention, private security, industrial security, retail security, security systems and surveillance.

Job opportunities are available with federal, state, county and municipal governments. In addition, knowledge, skills and attitudes acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

Due to public interest Cape Fear Community College limits its offerings in Criminal Justice Curriculum to the law enforcement filed, but will offer additional career tracks as necessary to meet public need.

			Credit Hours
FIRST QUARTER			
CJC	150	Introduction to Criminal Justice	5
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
SOC	102	Principles of Sociology	3
			16
SECOND QUARTER			
CJC	103	Introduction to Criminal Investigation	3
CJC	115	Criminal Law	5
ENG	102	Composition	3
OSC	105	Keyboarding	3
SOC	103	American Institutions	3
			17
THIRD QUARTER			
CJC	118	Defensive Tactics	2
CJC	141	Handwriting Identification	5
CJC	110	Criminal Investigation	3
ENG	103	Report Writing	3
PSY	102	Introduction to Psychology	3
			16
FOURTH QUARTER			
CJC	102	Introduction to Criminology	3
CJC	203	Forensic Photography	3
CJC	240	Firearms Identification	5
CAS	101	Computer Familiarization	3
ENG	114	Oral Communication	3
			17
FIFTH QUARTER			
OSC	222	Word Processing I	3
CHM	101	Introduction to Chemistry	5
CJC	105	Firearms	3
CJC	140	Fingerprint Identification	5
___	___	Elective	3
			19
SIXTH QUARTER			
BIO	103	Anatomy and Physiology	4
CJC	211	Introduction to Criminalistics	5
CJC	224	Industrial Security	3
ENG	250	Introduction to Folklore	5
			17
SEVENTH QUARTER			
CJC	220	Law Enforcement Organization and Management	3
CJC	222	Crime Scene Investigation	3
LEX	205	Constitutional Law	5
___	___	Criminal Justice Elective	3
___	___	Social Science/Humanities Elective	3
			17
CRIMINAL JUSTICE ELECTIVES			
CJC	108	Research & Planning in Criminal Justice	3
CJC	205	Scientific Evidence	3
CJC	208	Arson Investigation	3
CJC	230	Contemporary Issues in Criminal Justice	3
PHY	225	Forensic Physics	4
POL	250	American State and Local Government	5

Criminal Justiced - Public Services Technology

ASSOCIATE DEGREE PROGRAM

Suggested Sequence of Courses by Quarters for Evening Students
(PROGRAM BEGINS IN ODD NUMBERED YEARS)

FIRST QUARTER-FALL			**Credit Hours**
CJC	150	Introduction to Criminal Justice	5
ENG	101	Grammar	3
			8
SECOND QUARTER-WINTER			
ENG	102	Composition	3
___	___	Elective	3
			6
THIRD QUARTER-SPRING			
CJC	103	Introduction to Criminal Investigation	3
ENG	103	Report Writing	3
			6
FOURTH QUARTER-SUMMER			
CJC	110	Criminal Investigation	3
ENG	114	Oral Communication	3
			6
FIFTH QUARTER-FALL			
CJC	115	Criminal Law	5
MAT	121	Technical Mathematics	5
			10
SIXTH QUARTER-WINTER			
CJC	118	Defensive Tactics	2
SOC	102	Principles of Sociology	3
			5
SEVENTH QUARTER-SPRING			
OSC	105	Keyboarding	3
CJC	141	Handwriting Identification	5
			8
EIGHTH QUARTER-SUMMER			
CJC	102	Introduction to Criminology	3
SOC	103	American Institutions	3
			6
NINTH QUARTER-FALL			
CJC	203	Forensic Photography	3
PSY	102	Introduction to Psychology	3
			6
TENTH QUARTER-WINTER			
CJC	240	Firearms Identification	5
CAS	101	Computer Familiarization	3
			8
ELEVENTH QUARTER-SPRING			
OSC	222	Word Processing	3
CJC	140	Fingerprint Identification	5
			8
TWELFTH QUARTER-SUMMER			
CHM	101	Introduction to Chemistry	5
CJC	105	Firearms	3
			8
THIRTEENTH QUARTER-FALL			
BIO	103	Anatomy and Physiology	4
FOURTEENTH QUARTER-WINTER			
CJC	224	Industrial Security	3
ENG	250	Folklore	5
			8
FIFTEENTH QUARTER-SPRING			
CJC	211	Introduction to Criminalistics	5
LEX	205	Constitutional Law	5
			10
SIXTEENTH QUARTER-SUMMER			
CJC	220	Law Enforcement Organization and Management	3
___	___	Social Science/Humanities Elective	3
			6
SEVENTEENTH QUARTER-FALL			
CJC	222	Crime Scene Investigation	3
___	___	Criminal Justice Elective	3
			6
TOTAL CREDIT HOURS			**121**

NOTE: Cape Fear Community College reserves the right to cancel classes due to insufficient enrollment.

Drafting and Design Engineering Technology

The drafting and design engineering technology curriculum prepares technicians for drafting and/or designing mechanical parts, mechanisms and mechanical systems.

Emphasis is placed on developing the student's ability to think and plan as well as on the development of drafting and design skills. Computer Aided Drafting (CAD) and conventional equipment will be used to produce drawings such as sectional views, subassemblies and major components of machinery and mechanical systems.

Coursework includes the study of technical drafting and design, materials, applied mechanics, mechanical systems, manufacturing methods, manufacturing processes, applied physics, technical mathematics, descriptive geometry, computer applications and written and oral communications.

Drafting and design technicians are employed in many types of manufacturing, fabrication, research and development and service industries.

FIRST QUARTER			**Credit Hours**
DFT	101	Technical Drafting	6
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
MEC	121	Industrial Methods I	1
SOC	102	Principles of Sociology	3
			18

SECOND QUARTER			
DFT	102	Technical Drafting	6
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
MEC	122	Industrial Methods II	1
PHY	101	Physics: Properties of Matter	4
			19

THIRD QUARTER			
DFT	103	Technical Drafting	6
ENG	103	Report Writing	3
MAT	123	Technical Mathematics	5
MEC	123	Industrial Methods III	1
PHY	102	Physics: Work, Energy and Power	4
			19

FOURTH QUARTER			
DFT	200	Dimensioning and Tolerancing	3
DFT	201	Technical and Computer Aided Drafting	8
PHY	103	Physics: Electricity	4
PSY	102	Introduction to Psychology	3
__	__	Elective	3
			21

FIFTH QUARTER			
DFT	202	Technical and Computer Aided Drafting	8
ENG	114	Oral Communication	3
MEC	209	Introduction to Metallurgy	4
PHY	106	Applied Mechanics	4
__	__	Elective	3
			22

SIXTH QUARTER			
DDF	203	Design and Computer Aided Drafting	8
HYD	235	Hydraulics and Pneumatics	4
MEC	205	Strength of Materials	4
MEC	216	Industrial Materials	5
			21

SPLIT COURSE - When DFT 204, Technical Drafting, and DFT 205, Computer Graphics, are completed, full credit will be given for DFT 201, Technical Drafting and Computer Graphics.

DFT 204	Technical Drafting	4
DFT 205	Computer Aided Drafting	4

Electronics Engineering Technology

The Electronics Engineering Technology curriculum provides a basic background in electronic related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronics technician will start in one or more of the following areas: research, design, development, production, maintenance, or sales. The graduate may begin as an electronics technician, engineering aide, laboratory technician, supervisor, or equipment specialist.

Prerequisites: In addition to general admissions requirements, at least one year of high school algebra or the equivalent is required.

FIRST QUARTER			**Credit Hours**
ELC	107	Electricity I	6
ELN	102	Electronic Fabrication Techniques	1
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
			15

SECOND QUARTER			
ELC	108	Electricity II	5
ELN	106	Electronics I	5
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
			18

THIRD QUARTER

ELC	109	Electricity III	5
ELN	107	Electronics II	5
MAT	123	Technical Mathematics	5
PHY	101	Physics: Properties of Matter	4
			19

FOURTH QUARTER

DFT	100	Technical Drafting	2
ELN	108	Electronics III	5
ELN	121	Digital Electronics I	5
ENG	103	Report Writing	3
PHY	102	Physics: Work, Energy, and Power	4
			19

FIFTH QUARTER

CSC	201	BASIC Language Programming I	3
ELN	122	Digital Electronics II	3
ELN	202	Communication Electronics	5
ELN	204	Electronic Projects, Basic Wiring	1
ELN	236	Industrial Field Trips	1
PSY	102	Introduction to Psychology	3
___	___	Elective	3
			19

SIXTH QUARTER

ELN	205	Analytic Electronic Troubleshooting	2
ELN	231	Electronics in Industry	4
ELN	238	Antenna and Transmission Line Theory	4
ENG	114	Oral Communication	3
SOC	102	Principles of Sociology	3
			16

SEVENTH QUARTER

ELN	206	Electronic System Design and Construction	2
ELN	220	Electronic Systems	4
ELN	235	Microprocessors, Servocontrols, and Robotics	4
PHY	104	Physics: Light and Sound	4
SOC	103	American Institutions	3
___	___	Elective	3
			20

General Occupational Technology

The General Occupational Technology curriculum is designed to meet the needs of full-time and part-time employees in business and industry. This program of study provides these individuals with an opportunity to upgrade their skills and/or to earn an associate degree by taking courses suited to their occupational needs. The curriculum consists of a basic core of courses in communications, mathematics, and social science. The balance of the curriculum consists of a sequence of technical courses individually tailored to satisfy the requirements of the student and/or the student's employer.

To graduate with an Associate in Applied Science degree in General Occupational Technology, a student must complete a minimum of sixty (60) quarter hours of major technical courses, thirty-one (31) quarter hours of related courses, and eighteen (18) quarter hours of general courses for a total of 109 quarter hours of credit.

MAJOR COURSES

60-71 Quarter Hours Credit

Students are to select a minimum of sixty (60), maximum of seventy-one (71), quarter hours from the technical curriculum courses that are currently being offered by the College. An individualized program of study is prepared for each student by the student and his or her faculty advisor. The program of study will be based upon the student's educational needs, objectives, and will demonstrate an area of major concentration.

RELATED COURSES

31-42 Quarter Hours Credit

Related courses support and enrich the foundation of major technical courses. Students are to select a minimum of thirty-one (31), maximum forty-two (42), quarter hours of related electives from the following academic disciplines:

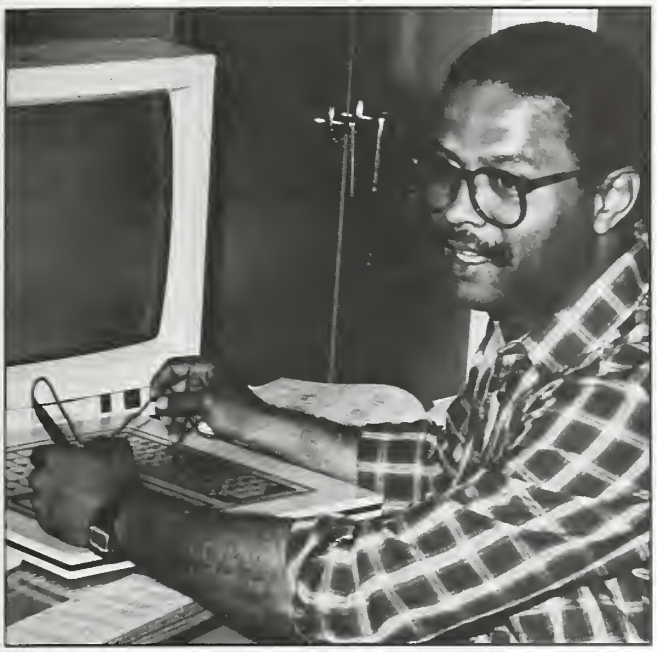
	Quarter Hours Credit
Mathematics	**9-20**
Technical Math	
Business Math	
Statistics	
Physics	**8-15**
Introduction to Computers	**4-8**
Business	**3-9**
Economics	
Accounting	
Computer Programming	
Other	**3-9**
Drafting	

GENERAL COURSES

18-27 Quarter Hours Credit

Students are required to complete a minimum of eighteen (18), maximum of twenty-seven (27), quarter hours of general courses from the following academic disciplines:

Communications	**9-15**
Grammar	
Composition	
Speech	
Report Writing	
Social Science	**6-9**
Psychology	
Sociology	
Political Science	



Instrumentation Technology

The Instrumentation Technology curriculum provides a program of study to develop knowledge of measuring and controlling devices and to develop the technical skills involved in the application of instrument control to processes, systems, and operations of modern industry. The instrumentation technician is a key person in keeping a processing plant operating. This individual is responsible for both production and production control and must deal with variables that affect manufacturing processes such as temperature, flow, level, humidity, density and viscosity that affect manufacturing processes. In many plants when a piece of equipment breaks down, employees are laid off until the instrumentation person can repair the equipment and production is resumed. This person's knowledge of mechanics, electronics, pneumatics and the manufacturing processes is the key factor in how quickly a machine or plant may again resume operation.

The instrumentation technician may select, install, calibrate, check out and maintain sensing, telemetering, and recording instrumentation and circuitry. Other functions may include devising, setting up and operating instrumentation equipment involved in testing mechanical, structural or electrical equipment. The graduate may work as an instrumentation technician, engineering aide or associate, service specialist, laboratory technician or instrument field service technician.

Prerequisites: In addition to general admission requirements, at least one year of high school algebra or the equivalent is required.

			Credit Hours
FIRST QUARTER			
ELC	107	Electricity I	6
ELN	102	Electronic Fabrication Techniques	1
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
			15
SECOND QUARTER			
ELC	108	Electricity II	5
ELN	106	Electronics I	5
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
			18
THIRD QUARTER			
CHM	118	Basic Chemistry	3
ELC	109	Electricity III	5
ELN	107	Electronics II	5
MAT	123	Technical Mathematics	5
			18
FOURTH QUARTER			
DFT	100	Technical Drafting	2
ELN	108	Electronics III	5
ELN	121	Digital Electronics I	5
ENG	103	Report Writing	3
PHY	100	Introductory Physics	5
			20
FIFTH QUARTER			
ELN	122	Digital Electronics II	3
ELN	224	Measurement and Control I	4
ELN	227	Industrial Motor Control	3
ELN	236	Industrial Field Trips	1
PHY	105	Physics: Heat and Fluids	4
PSY	102	Introduction to Psychology	3
___	___	Elective	3
			21
SIXTH QUARTER			
ELN	221	Microprocessors I	4
ELN	225	Measurement and Control II	5
PHY	104	Physics: Light and Sound	4
SOC	102	Principles of Sociology	3
			16
SEVENTH QUARTER			
ELN	226	Measurement and Control III	5
ELN	223	Microprocessor Industrial Control Applications	6
ENG	204	Oral Communication	3
SOC	103	American Institutions	3
___	___	Elective	3
			20

Manufacturing Engineering Technology

The primary objective of the Manufacturing Enginering Technology curriculum is the training of personnel to assist the engineer or small industry in planning, tooling, operating, servicing and supervising manufacturing operations. This curriculum provides a basic background of mechanical and related theory, with specific skills in the use of manufacturing and testing equipment. Students are given experiences in operating and servicing machines, accompanied by general education and management courses.

A graduate of this program may qualify for an entry position in one of several manufacturing functions: methods, analysis, production scheduling, quality control, materials testing, plant layout, time study, machine tooling, maintenance and equipment and instrument work.

FIRST QUARTER			Credit Hours
CAS	106	Computer Applications	3
DFT	106	General Drafting	5
ENG	101	Grammar	3
MAT	121	Technical Mathematics	5
MEC	121	Industrial Methods I	1
			17

SECOND QUARTER			
BPR	108	Industrial Blueprint Reading	5
ENG	102	Composition	3
MAT	122	Technical Mathematics	5
MEC	122	Industrial Methods II	1
PHY	101	Physics: Properties of Matter	4
			18

THIRD QUARTER			
ECO	102	Economics I	3
ENG	103	Report Writing	3
MAT	123	Technical Mathematics	5
MEC	123	Industrial Methods III	1
PHY	102	Physics: Work, Energy, and Power	4
—	—	Elective	3
			19

FOURTH QUARTER			
CHM	101	Introduction to Chemistry	5
DFT	206	Computer Aided Design and Manufacturing	4
ISC	101	Industrial Safety	3
PHY	103	Physics: Electricity	4
			16

FIFTH QUARTER			
MEC	207	Manufacturing Processes	5
MEC	209	Introduction to Metallurgy	4
SOC	102	Principles of Sociology	3
WLD	101	Basic Welding	2
—	—	Elective	3
			17

SIXTH QUARTER			
ATR	201	Introduction to Robotics	4
ENG	114	Oral Communication	3
HYD	235	Hydraulics and Pneumatics	4
MAT	211	Basic Statistics	5
MEC	216	Industrial Materials	5
			21

SEVENTH QUARTER			
CSC	165	BASIC Programming for Engineering Technology	2
ELM	208	Control Systems	4
ISC	202	Quality Control	4
ISC	203	Motion and Time Study	4
ISC	204	Industrial Organization and Management	3
			17

Marine Technology

The Marine Technology curriculum is designed to provide the science, English, mathematics, and practical skills essential for success in the area of marine scientific support. This curriculum provides the student with the opportunity to become proficient in the general knowledge and skills required of a scientific support technician through practical training aboard ship as well as in the classroom. The Marine Technology curriculum prepares individuals to use and maintain sophisticated equipment such as electronic navigation devices, physical and chemical measuring instruments, sampling devices, and data acquisition and reduction systems aboard ocean-going and other types of vessels.

Graduates of this program will be basically qualified to work in the following areas: data acquisition and reduction, environmental monitoring, geophysical exploration, general applied oceanography, field and laboratory biology, water analysis, water and wastewater treatment laboratory analysis, nuclear power plant environmental work, fishing gear construction and repair, small engine maintenance and repair, fishing, marine salvage and other marine scientific activities. Employment opportunities are available with various state and federal agencies and with private businesses and industries associated with marine science and research.

FIRST QUARTER			Credit Hours
ENG	101	Grammar	3
SAF	121	First Aid and Marine Safety	3
MAT	121	Technical Mathematics	5
MSC	103	Ocean Survey (44-88 Clock Hours)	2
MSC	109	Oceanography I	3
MSC	111	Net Construction Methods	2
MSC	131	Marine Biology	3
MSC	132	Power Boat Operations and Seamanship	2
			23

SECOND QUARTER

MAT	122	Technical Mathematics	5
MSC	101	Navigation I	3
MSC	110	Oceanography II	3
MSC	117	Practical Experience I	1
MSC	133	Marine Invertebrate Zoology	3
MSC	141	Marine Projects (33 Clock Hours)	1
PHO	110	Introduction to Photography	2
—	—	Elective	3
			21

THIRD QUARTER

CHM	101	Introduction to Chemistry	5
ENG	102	Composition	3
MAT	123	Technical Mathematics	5
MSC	104	Ocean Survey (44-88 Clock Hours)	2
MSC	118	Practical Experience II	1
MSC	135	Aquarium Systems	2
OSC	100	Basic Keyboarding	1
WLD	134	Marine Welding	2
			21

FOURTH QUARTER

DFT	117	Drafting and Blueprint Reading	3
MSC	102	Navigation II	3
MSC	108	Oceanographic Instrumentation	3
MSC	112	Biological Net Construction I	2
MSC	142	Marine Projects (33 Clock Hours)	1
PME	101	Marine Engines I	2
			14

FIFTH QUARTER

CHM	109	Water Analysis I	2
ECL	113	Environmental Measurements	2
ENG	103	Report Writing	3
MSC	105	Ocean Survey (44-88 Clock Hours)	2
MSC	113	Biological Net Construction II	2
PHY	101	Physics: Properties of Matter	4
PME	102	Marine Engines II	2
PSY	102	Introduction to Psychology	3
			20

SIXTH QUARTER

CAS	106	Computer Applications	3
CHM	224	Water Analysis II	3
GEL	101	Marine Geology	4
MAT	165	Introduction to Statistics	5
MSC	202	Data Processing I	2
MSC	143	Marine Projects (33 Clock Hours)	1
SOC	102	Principles of Sociology	3
			21

SEVENTH QUARTER

MSC	134	Marine Animals of North Carolina	(4)
	OR		
MSC	213	Marine Vertebrate Zoology	4
ELC	100	Electricity I	3
ENG	114	Oral Communication	3
MSC	106	Ocean Survey (44-88 Clock Hours)	2
MSC	119	Practical Experience III	1
MSC	205	Data Processing II	2
PHY	102	Physics: Work, Energy, and Power	4
SOC	103	American Institutions	3
			22

EIGHTH QUARTER

ELC	101	Electricity II	3
ELN	140	Introduction to Marine Electronics	5
MSC	107	Ocean Survey (44-88 Clock Hours)	2
MSC	114	Biological Sampling Methods	2
MSC	206	Estuarine Survey	5
—	—	Elective	3
			20

Medical Records Technology

The Medical Records Technology curriculum prepares the individual with the knowledge and skills to process, maintain, compile and report health information.

Technical knowledge and skills include those necessary to assemble, analyze, abstract and maintain medical records; supervise medical record department functions, classify/code and index diagnosis and procedures for reimbursement, statistical and administrative purposes; provide information for cost control, assurance of quality health care, marketing and planning for health services and risk management; prepare reports for health-related organizations such as federal, state and regulatory agencies and those responsible for health care reimbursement; complete research studies such as those done to review the quality of medical care; and maintain the confidentiality and security of patient information.

Medical Record Technicians may find employment in hospitals, rehabilitation facilities, nursing homes, health insurance organizations, out-patient clinics, and mental health facilities.

A graduate of an accredited program is eligible to apply to write the national qualifying examination for certification as an Accredited Record Technician (ART).

Courses in the following areas would be helpful to students: computer science, biology, health occupations and typing.

FIRST QUARTER			**Credit Hours**
BIO	115	Terminology Vocabulary: Medical I	3
BIO	121	Anatomy and Physiology I	6
MRT	100	Orientation to MRT	4
ORI	150	College Survival Skills	1
OSC	105	Keyboarding	3
—	—	Elective	3
			20

SECOND QUARTER

BIO	116	Terminology and Vocabulary: Medical II	3
BIO	122	Anatomy and Physiology II	6
BIO	124	Principles of Disease	4
ENG	101	Grammar	3
			16

THIRD QUARTER

BIO	117	Terminology and Vocabulary: Medical III	3
BIO	123	Microbiology	6
BUS	237	Principles of Supervision	3
ENG	102	Composition	3
MRT	105	Legal Aspects of Medical Records	3
PSY	150	Introduction to Psychology	5
			23

FOURTH QUARTER

ENG	114	Oral Communication	3
MRT	201	Medical Records Content and Maintenance	4
MRT	202	Medical Records Standards and Regulations	4
MRT	203	Basic ICD-9-CM Coding	4
MRT	206	Directed Practice I	3
			18

FIFTH QUARTER

MAT	121	Technical Mathematics	5
MRT	204	Intermediate Coding	4
MRT	207	Directed Practice II	4
MRT	209	Medical Record Statistics	4
MRT	210	Introduction to Medical Record Transcription	2
			19

SIXTH QUARTER

ENG	103	Report Writing	3
MRT	205	Advanced Coding Concepts	4
MRT	208	Directed Practice III	4
MRT	211	Quality Assurance in Health Care	3
—	—	Elective	3
			17

Micro Computer Systems Technology

The purpose of the Microcomputer Systems Technology curriculum is to prepare graduates for employment with business, industry, and government organiazations that use or are planning to use computers to process and manage information.

Using microcomputers or other small computer systems, students will learn to apply a variety of commonly used business applications and systems software; set up microcomputer hardware and install software; develop user training programs and user documentation; evaluate and recommend hardware and software; assist users in resolving hardware and software problems; and develop control and security procedures. Students will also learn the fundamentals of microcomputer networking.

FIRST QUARTER **Credit Hours**

BUS	127	Business Mathematics	5
CAS	115	Introduction to Microcomputers and Software	4
CAS	120	Introduction to DOS and Other Operating Systems	4
ENG	101	Grammar	3
OSC	105	Keyboarding	3
			19

SECOND QUARTER

CAS	125	Microcomputer Word Processing I	4
CSC	201	BASIC Language Programming	4
ENG	102	Composition	3
MAT	121	Technical Mathematics	5
			16

THIRD QUARTER

ACC	120	Accounting I	6
CAS	109	Database Processing I	3
CAS	130	Spreadsheet Applications I	4
ENG	114	Oral Communication	3
			16

FOURTH QUARTER

CAS	140	Introduction to Telecommunications	5
CSC	215	Introduction to Programming in C	4
ENG	103	Report Writing	3
SOC	102	Introduction to Sociology	3
			15

FIFTH QUARTER

BUS	219	Office Supervision	3
CAS	203	Introduction to Local Area Networks	4
CAS	208	Desktop Publishing	3
CAS	220	Microcomputer Maintenance and Installation	4
PSY	102	Introduction to Psychology	3
			17

SIXTH QUARTER

CAS	210	Introduction to Mini/Mainframe Operations	4
CAS	222	Microcomputer Training and Support	4
—	—	Major Elective	4
—	—	Major Elective	4
			16

SEVENTH QUARTER

CAS	224	Microcomputer Systems Project	4
—	—	Elective	3
—	—	Major Elective	4
—	—	Major Elective	4
			15

MAJOR TECHNICAL ELECTIVES

CAS	142	OS/2 Operating System	4
CAS	146	Introduction to Computers and Multimedia	4
CAS	147	Introduction to Microcomputer Graphics	4
CAS	200	Database Processing II	3
CAS	204	Local Area Network Administration and Maintenance	4
CAS	211	Spreadsheet Applications II	3
CAS	226	Microcomputer Word Processing II	4
CSC	217	Introduction to Pascal Programming	4

Paralegal Technology

The Paralegal Technology curriculum trains individuals in basic knowledge and applications of the law to work under the supervision of attorneys. The paralegal/legal assistant can support attorneys by performing routine legal tasks, and assisting with more complicated and difficult legal work. Training will include legal specialty courses such as legal research, real estate, litigation preparation, as well as general subjects such as English, oral communications, mathematics, and computer skills.

Graduates of the Paralegal Technology curriculum are trained to assist an attorney or group of attorneys in many areas of the law. A paralegal/legal assistant is not able to practice law, give legal advice or represent, clients in a court of law. However, paralegal/legal assistants can represent clients in some administrative hearings. Paralegal graduates will be able to assist in work on probate matters, conduct investigations, search public records, serve and file legal documents, perform library research, and provide office management. Employment opportunities and job descriptions vary greatly depending on whether a paralegal/legal assistant is hired by a private law firm, or a government agency, or a corporation such as a bank or insurance company.

FIRST QUARTER			**Credit Hours**
BUS	127	Business Mathematics	5
LEX	101	Introduction to Paralegalism	3
LEX	115	Commercial Law I	5
LEX	135	Legal Systems	5
OSC	105	Keyboarding	3
			21
SECOND QUARTER			
ACC	120	Accounting I	6
ENG	118	English Composition I	5
LEX	116	Commercial Law II	5
LEX	117	Torts and Litigation Preparation	3
OSC	118	Document Production	3
			22
THIRD QUARTER			
ENG	119	English Composition II	5
LEX	104	Investigation	3
LEX	114	Property I	3
LEX	132	Legal Research/Bibliography	7
POL	103	State and Local Government	3
			21
FOURTH QUARTER			
LEX	111	Legal Writing	2
LEX	113	Family Law	3
LEX	215	Property II: Title Search	4
LEX	217	Elements of Criminal Law and Procedure	5
			14
FIFTH QUARTER			
ACC	129	Taxes I	4
LEX	208	Administrative Law	3
LEX	216	Property III: Loan Closings	2
LEX	224	Wills	4
LEX	230	Bankruptcy and Collection	3
			16
SIXTH QUARTER			
LEX	205	Constitutional Law	5
OSC	222	Word Processing I	3
PSY	102	Introduction to Psychology	3
SOC	102	Principles of Sociology	3
___	___	Elective	3
			17
SEVENTH QUARTER			
ENG	114	Oral Communication	3
LEX	238	Paralegal Internship (20 Co-op)	2
LEX	240	Paralegal Office Procedures	1
SOC	103	American Institutions	3
			9

Real Estate

(TECHNICAL SPECIALTY)

The purpose of the Real Estate (Technical Specialty) curriculum is to provide the prelicensing education requirements needed for real estate salespersons and brokers.

The courses required by the North Carolina Real Estate Commission for prelicensing which are covered in this curriculum are Fundamentals of Real Estate, Real Estate Law, Real Estate Finance, and Brokerage Operations. In addition to theses courses, Real Estate Math is also included.

After successful completion of Fundamentals of Real Estate, an individual may make application with the Real Estate Commission to take the prelicensing real estate salesperson examination. After successful completion of all the courses required by the Real Estate Commission, an individual may make application with the Commission to take the real estate prelicensing broker examination.

Employment opportunities are available in real estate firms as salesperson or brokers as well as a real estate brokers in one's own business.

NOTE: In order to qualify for the salesman or brokerage certificate or to receive the Real Estate (Technical Specialty) certificate, one must have a minimum passing competency level of 78% for each course listed in the Real Estate (Technical Specialty) program.

FIRST QUARTER			**Credit Hours**
RLS	103	Fundamentals of Real Estate	6
SECOND QUARTER			
RLS	109	Real Estate Math	3
RLS	114	Real Estate Law	3
			6

THIRD QUARTER

RLS	115	Real Estate Finance	3
RLS	116	Real Estate Brokerage Operations	3
			6

Real Estate Appraisal

The purpose of the Real Estate Appraisal curriculum is to provide the prelicensing and the pre-certification appraisal education requirements approved by the N. C. Real Estate Commission.

The courses required by the N. C. Real Estate Commission for prelicensing as a "State-licensed" appraiser are covered in this curriculum. Theses courses are Introduction of Real Estate Appraisal, Valuation Principles and Procedures, and Applied Residential Property Valuation.

The courses required by the N. C. Real Estate Commission for pre-certification as a "State-certified" appraiser are also provided. These courses are Introduction to Income Property Appraisal, Advanced Income Capitalization Procedures, and Applied Income Property Valuation. A good math background is very important in this curriculum. It is recommended that a student have mastered competencies found in an basic algebra course before taking Advanced Income Capitalization Procedures.

The course required for the "State-licensed" appraiser and the "State-certified" appraiser must be completed in sequential order.

In addition to meeting the education requirements to become a "State-licensed" appraiser and/or a "State-certified" appraiser, an individual must pass the appraisal examinations given by the N. C. Real Estate Commission and meet the appraisal experience requirements. A "State-licensed" or "State-certified" appraiser will be able to identify himself or herself to the public as being state licensed and/or state certified, and will be qualified to perform appraisals in federally-related transactions.

State-licensed Real Estate Appraiser

FIRST QUARTER			**Credit Hours**
APR	131	Introduction to Real Estate Appraisal (R-1)	3

SECOND QUARTER

APR	132	Valuation Principles and Procedures (R-2)	3

THIRD QUARTER

APR	133	Applied Residential Property Valuation (R-3)	3

State-certified Real Estate Appraiser

FOURTH QUARTER

APR	241	Introduction to Income Property Appraisal (G-1)	3

FIFTH QUARTER

APR	242	Advanced Income Capitalization Procedures (G-2)	3

SIXTH QUARTER

APR	243	Applied Income Property Valuation (G-3)	3

NOTE: Cape Fear Community College provides only the required course work to become an appraiser. Additional Questions should be directed to N.C. Real Estate Commission, Appraisal Education Division.

COLLEGE TRANSFER, GENERAL EDUCATION & TECHNICAL COURSE DESCRIPTIONS

ACC 120 - Accounting I
This first course in accounting covers the principles, techniques, and tools of accounting. The student is introduced to the mechanics of accounting. The process of accounting includes the collecting, summarizing, and analysis of financial information.
Course Hours Per Week: Class 5, Lab 2.
Quarter Hours Credit 6.
Prerequisite: BUS 127, MAT 121, or BUS 113

ACC 121 - Accounting II
This course is a study of partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on the recording, summarizing, and interpreting data for management controls rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems.
Course Hours Per Week: Class 5, Lab 2.
Quarter Hours Credit 6.
Prerequisite: ACC 120

ACC 122 - Accounting III
This course is concerned with the design of the system of records, the preparation of reports based on recorded data, and the interpretation of the reports in a business firm. The use of accounting data and reports provides management with the information as to what has taken place in the business and how the information is used to make future business decisions.
Course Hours Per Week: Class 5, Lab 2.
Quarter Hours Credit 6.
Prerequisite: ACC 121

ACC 125 - Accounting IV
This course examines the basic analytic tools used by a firm's management to plan, staff, finance, and control operations. Interpretation and determination of various quantitative and financial statistics is emphasized.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ACC 122

ACC 128 - Computerized Accounting I
This is a course in computer record keeping. The content of the course will include the general ledger and the preparation of financial statements, data entry and updating of accounts receivable and accounts payable, inventory purchase cost and control, and sales and invoice preparation.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisites: ACC 120, CAS 101

ACC 129 - Taxes I
This course is the application of federal and state taxes to various businesses and business conditions. It is a study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise and inheritance.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

ACC 220 - Intermediate Accounting I
This course is a review of the accounting information processing system, the statement of income, and statement of cash flows. The course includes the study of basic interest concepts of future and present values, cash and receivables, and the measurement of cost of goods sold and merchandise inventory.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 122

ACC 221 - Intermediate Accounting II
The second quarter in intermediate accounting includes the study of property, plant, and equipment and the concepts and methods of depreciation. This is a study of intangible assets, income recognition, short-term and long-term debts by the borrower and the lender. Also, the formation of a corporation and the buying and selling of securities is included in the course.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 220

ACC 225 - Cost Accounting I
The first course in cost accounting includes the study of cost concepts, cost behavior, job order costing, cost estimation, and allocating overhead costs and variance analysis. The course includes a study of weighted-average and first-in first-out costing, material and lost units costing, and joint product and by-product costing.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 122

ACC 226 - Cost Accounting II
This course is concerned with standard costs for material and labor, standard costs for factory overhead, the budgeting process, cash budgets, forecasted statements, cost-volume-profit analysis, and the concept of variable costing.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 225

ACC 228 - Computerized Accounting II
This course is designed to help the student use his accounting knowledge to learn how to use a spreadsheet software as a problem-solving and decision-making tool. The content of the course will include what-if-making tool. The content of the course will include what-if-modeling, usage of databases for measuring performance, creating and using macros, and entering accounting data into an integrated accounting software.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: ACC 128

ACC 230 - Taxes II
This course is a continuation of the study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance taxes.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 129

ANT 150 - Introduction to Anthropology
This course is an overview of the field of anthropology. Topics include the physical evolution of mankind, biological variation within human populations, historical development of cultures, linguistics, and archeological findings.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

APR 131 - Introduction to Real Estate Appraisal (R-1)
This course introduces the student to the subject of real estate appraisal and prepares the student for the R-2 course on "Valuation Principles and Procedures". It begins with coverage of basic real property law, followed by coverage of the various concepts of value and the operation of real estate markets. Relevant mathematical concepts are then reviewed and the student is introduced to statistical concepts used in appraisal practice. Next comes coverage of real estate financing terminology and practices, followed by an introduction to the basics of residential construction and design. The student is then provided an overview of the entire valuation (appraisal) process, and the course concludes with specific coverage of residential neighborhood analysis and property analysis, two of the most important preliminary steps in the appraisal process.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

APR 132 - Valuation Principles and Procedures (R-2)
This course focuses on the procedures (methodology) used to develop an estimate of property value and how the various principles of value relate to the application of such procedures. Emphasis is on appraisal of residential 1-4 unit properties and small farms; however, all the concepts and procedures covered are applicable to the appraisal of all types of properties. The course begins with a review of the appraisal process and proceeds into thorough coverage of the sales comparison approach, followed by site valuation methods used to appraise residential 1-4 unit properties. The cost approach is then covered in depth. The basic concepts and methodology associated with the income approach are covered, with emphasis on direct capitalization using an overall rate and the gross rent multiplier technique. Finally, the student is introduced to the process of reconciling property value estimates obtained through application of the approaches to value.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: APR 131 or an equivalent course approved by the North Carolina Real Estate Licensing Board.

APR 133 -Applied Residential Property Valuation (R-3)
This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and procedures to the appraisal of residential 1-4 unit properties and small farms. The student is first acquainted with federal laws/regulations applicable to appraisers and the provisions of the North Carolina Real Estate Appraisers Act and related Commission Rules. Next comes coverage of the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules), followed by coverage of appraisal reports, with emphasis on standard report forms. The student then participates in a comprehensive case study of an appraisal of single-family house using the URAR form. Instruction is then provided on various special considerations in appraising other types of residential 1-4 unit properties and in appraising farms. Finally, the student is introduced to appraising special (partial) property interests and to condemnation appraisals.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: APR 132 or an equivalent course approved by the North Carolina Real Estate Licensing Board.

APR 241 - Introduction to Income Property Appraisal (G-1)
This course introduces concepts and techniques used to appraise real estate income properties. It begins with a discussion of underlying economic principles and motivations for investing in income property. The appraisal process is then reviewed with emphasis on income property. This is followed by a discussion of real estate market analysis, property analysis, and site valuation. Mathematical and statistical concepts used in the appraisal of income property are covered next followed by coverage of how to use financial tables and/or financial calculators to solve a variety of problems associated with analysis of real estate income properties, including present value, loan calculations, estimation of net operating income, and estimation of before tax cash flow. Next, students learn how to estimate the value of a real estate income property by using a gross income multiplier and by direct capitalization with an overall rate. Finally, students are introduced to other capitalization rates.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: APR 133 or an equivalent course approved by the North Carolina Real Estate Licensing Board.

APR 242 - Advanced Income Capitalization Procedures (G-2)
This course reviews and then expands on the concepts introduced in Course G-1. The direct capitalization techniques introduced in G-1 are expanded to include various band of investment and residual techniques used in income property appraisal. This is followed by a thorough discussion of the concepts of yield rates and of discounted cash flow analysis (yield capitalization), which is the primary focus of this course. Financial leverage is also discussed so students better understand the relationship between various yield rates and capitalization rates. Several traditional yield capitalization formulas including Inwood, Hoskold, Ellwood and Akerson, are then discussed. Although rendered obsolete by the advent of financial calculators, these formulas are still used by many appraisers and students should be familiar with them. A financial calculator is required for this course.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: APR 241 or an equivalent course approved by the North Carolina Real Estate Licensing Board.

APR 243 - Applied Income Property Valuation (G-3)
This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and practices to the appraisal of income properties. The course begins with a review of federal laws/regulations applicable to appraisers, followed by coverage of the North Carolina Real Estate Appraisers Act and related Commission Rules, and coverage of the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules). Preparation of narrative appraisal reports is then covered, with students also being introduced to the Uniform Commercial and Industrial Appraisal Report (UCIAR) form. Coverage then shifts to appraising leased income properties, with emphasis on the effect of various lease provisions on the value estimate. The student then participates in highest and best use case studies, followed by case studies of appraisals of various types of existing income properties, which is the major focus of the course. The course concludes by covering considerations in appraising various development projects.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: APR 242 or an equivalent course approved by the North Carolina Real Estate Licensing Board.

ART 151 - Art History and Appreciation
This course is an introduction to the history of art and provides a survey of the general periods of art from prehistoric times through the Early Christian Era.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

ART 155 - Beginning Painting
This is a beginning course investigating a variety of media, techniques, and subjects.
Course Hours Per Week: Class 2, Lab 6.
Quarter Hours Credit 5.
Prerequisite: None

ATR 201 - Introduction to Robotics
This is a fundamental course in application, programming, and maintenance of robot devices.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Corequisite: HYD 235

BIO 101 - Human Anatomy and Physiology I
This course is a study of the organizational plan of the human body and the body systems concerned with motor activities, control and integration of functions, and reproduction. Laboratory experiences provide opportunities to see animal specimens illustrative of systems being studied.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: None

BIO 103 - Anatomy and Physiology
This course is a study of the human body and the body systems involved in motor activities, control and integration of functions, and reproduction. Laboratory experiences provide opportunities to study the skeletal system and dissect an animal to study body structures. Some medical and anatomical terminology will be included.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

BIO 107 - Human Anatomy and Physiology II
This course is designed to familiarize the student with the changing body during normal growth and development, both physically and physiologically, as well as psychologically. The different phases of life, what effects society has during these phases, and how the body adjusts accordingly will be studied. The disease process will also be investigated to show how the body strives to maintain homeostasis during illness. The use and results or medical intervention will be covered during this study. Some of the more common diseases will be looked at, and the student will be encouraged throughout this course to apply the material studied to daily living experiences.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: BIO 101

BIO 110 - General Biology
This course is an introduction to the concepts of biology. Emphasizes the modern view of man and other living organisms. Includes topics on the cell, energy, genetics, and ecology.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

BIO 115 - Terminology and Vocabulary: Medical I
Upon completion of this course, the student shall have an origin and development of word roots, prefixes, and suffixes commonly used in medical records; be able to correlate and use medical word components as proper medical terminology; be able to spell and pronounce medical terms including anatomical terms, diagnostic and therapeutic procedure terms, diseases and conditions, operations and treatments, special procedures; have an understanding of the basic human anatomy; become acquainted with terms which describe positions, directions, and planes of the body; and begin learning the major specialties and subspecialties dealing with the field of medicine.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Corequisites: BIO 121

BIO 116 - Terminology and Vocabulary: Medical II
Upon completion of this course, the student shall have learned the names, locations, and functions of the major organs and parts; learned and understood the terminology used to describe some of the pathological conditions which can affect the systems studied; and analyzed and used the combining forms, prefixes, and suffixes which describe the anatomy, physiology, and pathology of the systems listed as follows: male reproductive system, the nervous system, the cardiovascular system, the respiratory system, the blood and lymphatic system, the musculoskeletal system, and the integumentary system.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: BIO 115

BIO 117 - Terminology and Vocabulary: Medical III
During this course the student shall learn the names, location, and functions of the major organs and parts, understand the terminology used to describe some of the pathological conditions which can affect the systems: analyze and use the combining forms and suffixes which describe the anatomy, physiology, and pathology of the eye and ear and the endocrine system; learn the medical terms related to the general characteristics of tumors; learn the concepts and terms related to the transformation of a normal cell into a cancerous cell; to recognize terms which apply to the various etiological theories of cancer; to investigate terms which apply to X-rays; to differentiate between various subdivisions in the field pharmacology; to learn the names of the different classes of drugs and their use in patient care; and to gain practice in reading and understanding the practical application of medical terminology in medical research and publications.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: BIO 116

BIO 121 - Anatomy and Physiology I
Anatomy and Physiology I is the study of normal structures and functions of the human body. Elementary principles and concepts of chemistry, microbiology, and physics as they apply to the human body are included. The cardiovascular, respiratory and endocrine systems are studied in detail. Body fluids and electrolyte balance of the human body, including acid base balance, are included.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisites: None

BIO 122 - Anatomy and Physiology II
Anatomy and Physiology II is a continuation of the study of the structure and and function of the human body. The lymphatic, urinary, reproductive, nervous, gastrointestional and musculoskeletal systems are studied.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisite: BIO 121

BIO 123 - Microbiology
An introduction to the study of micro-organisms and their relation to individual and community health. Groups of organisms studied are yeasts, molds, bacteria, viruses, protozoa, and helminths. Laboratory work involves handling cultures, differential stains, cultivation, and metabolic activities of representative organisms. Problems in sanitation are also considered.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisite: BIO 122

BIO 124 - Principles of Disease
Covers classification of disease processes according to their etiology and organ system involvement; and presents physical signs and symptoms, complications, and preferred treatment of specific disease processes.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: BIO 121, BIO 115

BIO 150 - General Biology I
The biology of living systems from the biochemical, molecular, and cellular level through the structure and function of the whole organism, including physiology, heredity, development and evolution. Topics include surveys ranging from unicellular specimens through mammalian species.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisite: None

BIO 151 - General Biology II
An investigation of the nature of living systems and fundamental principles of scientific processes as they apply to current problems affecting the ecological balance of life on each.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisite: None

BIO 215 - Microbiology
This course is an introduction to the biology of microorganisms and their impact on medicine, health, industry, agriculture, and the environment. The basic techniques needed to isolate, observe, identify, and control microorganisms will be covered.
Course Hours Per Week: Class 3, Lab 4.
Quarter Hours Credit 5.
Prerequisite: BIO 110

BPR 108 - Industrial Blueprint Reading
An in-depth look at industrial prints and procedures. The student will be actively involved with prints that cover topics from basic title block orientation to instrumentation and control diagrams. The intent of this course is to provide the student with a reasonable working knowledge of industrial prints.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

BUS 109 - Professional Development
Students in careers involving office automation need training in technical as well as non-technical areas. The purpose of this course is to provide students with the kinds of non-technical knowledge and skills desirable by employers. The course will consist of a variety of activities designed to promote professional demeanor in such areas as attitude, dress, speech, work habits, and inter-personal office communications and relationships.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

BUS 113 - Mathematics of Finance
This course covers the basic concepts of business statistical analysis, compound interest, annuities, sinking funds, and amortization. The basic concepts of depreciation of assets, financial statements, and profit distribution are also covered.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

BUS 114 - Business Statistics
A basic course in business statistics which includes the flow of funds statement, capital investment, changes in working capital, opportunity costs, internal rate of return, sensitivity analysis, probability distributions, analysis of variance, survey sampling, and correlation.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: BUS 127 or BUS 113

BUS 115 - Business Law I
This is an introductory course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5
Prerequisite: None

BUS 116 - Business Law II
This is a follow-up course to Business Law I with a more in-depth study of law covering such topics as bailments, sales, riskbearing, partnership, corporation, mortgages, and property rights.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: BUS 115

BUS 123 - Business Finance I
This course explains the scope, principles, and social importance of business finance to the different types of business ownership in our economic systems. Through the analysis of the financial statements - the balance sheets and income statements - the sources and uses of funds may be obtained for any form of business.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ACC 121

BUS 124 - Business Finance II
This course explains the scope, principles, and social importance of business finance to the different types of business ownership in our economic systems. Through the analysis of the financial statements - the balance sheets and income statements - the sources and uses of funds may be obtained for any form of business. Financial statements are used by management as the basis for planning operations, including procurement of adequate financing, and as a means of exercising control over the financial position of the business and the efficient and profitable use of assets.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: BUS 123

BUS 127 - Business Mathematics
This course reviews the fundamental mathematical operations and their application to business problems. Topics covered include the fundamentals of problem-solving, computing with whole numbers and decimals, common and complex fractions, percentage, and interest.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

BUS 135 - Advanced Business Mathematics
This course is a study of pertinent uses of mathematics in the field of business. The topics covered include payrolls, price marking, depreciation, distribution of profits, compound interest, and amortization.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: BUS 127

BUS 219 - Office Supervision
Office supervision is a course designed to equip students with managerial skills and knowledge. Students will be given an opportunity to acquire the kinds of knowledge and skills they need to function more productively in an automated office environment. Included in the course of study will be learning modules pertaining to: organizational structures, leadership principles, time and stress management, listening skills, and verbal and non-verbal communications.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

BUS 235 - Business Management
This course explains the principles of business management, including an overview of the major functions of management, such as planning, staffing, controlling, directing, and financing.
Course Hours Per Week Class 3.
Quarter Hours Credit 3.
Prerequisite: None

BUS 237 - Principles of Supervision
The student is introduced to the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Major emphasis is placed on the role of the supervisor in securing an effective work force. Methods of supervision are stressed.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CAS 101 - Computer Familiarization
This is an introductory course designed to give the novice a basic understanding of data processing and information management in today's computer environment. It deals with the currently most used forms of data processing, basic vocabulary tools, and an understanding of the computer as a part of our society.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

CAS 101-A - Computer Familiarization
This course is designed to introduce the student to the basic concepts of data processing systems. The course will primarily deal with different computer hardwares, softwares and languages that are used by many industries.
Course Hours Per Week: Class 1.
Quarter Hours Credit 1.
Prerequisite: None

CAS 101-B - Computer Familiarization
The major portion of this class will deal with hands-on experience and is designed to develop the student's understanding of data processing systems. Students will be working with different software applications in the classroom that are currently being used by many industries.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: None

CAS 106 - Computer Applications
This is an introductory course in the three major usages of the personal computer. The student will be given an insight into MS-DOS, spreadsheet, data base, and word processing operations. Emphasis is placed on information about the processes and not on the mastery of the diciplines.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

CAS 109 - Database Processing I
An introduction to programmable database management systems. Topics include comparison and contrasting of types of databases (hierarchical, relational, and network), data dictionaries, query languages, report generators, and integrated programming languages. The course will include a survey of major microcomputer and mainframe database systems. Hands-on activities with a programmable database management system will be included.
Course Hours Per Week: Class 2, M. Lab 2.
Quarter Hours Credit 3.
Prerequisite: CAS 101

CAS 115 - Introduction to Microcomputers and Software
This course will introduce students to the microcomputer and the various types of software that are most often used in an office environment. The students will be prepared for advanced software classes but will not be proficient in any particular software package.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

CAS 120 - Introduction to DOS and Other Operating Systems
This course introduces popular microcomputer operating systems emphasizing DOS but including UNIX and OS/2. The course also covers other pseudo-operating systems such as Windows and menuing environments. The topics covered include: DOS, OS/2, and UNIX commands, hard disk management, Windows software, and menuing software.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

CAS 125 - Microcomputer Word Processing I
This course is an introduction to basic concepts of word processing. Students will use a major commercial word processing program to format, edit, save, retrieve, and print simple letters and memos.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: BUS 105, CAS 115 or instructor consent

CAS 130 - Spreadsheet Applications I
An introduction to the use and application of microcomputer spreadsheet software to solve various business and financial problems. The student will learn how to create, modify, save, retrieve, and print spreadsheets; enter labels, values, and formulas; copy, format, erase, move, and protect cells; and use intrinsic spreadsheet functions. Student exercise will be drawn from variety of business and financial areas.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

CAS 140 - Introduction to Telecommunications
This course will expose the students to the principles of digital communications with a computer as well as data communications between host computers and between hosts and PCs. The students will learn the underlying principles and the basic hardware. They will install and set up PC software and hardware in order to access computer databases, other PCs, or emulate host computer hardware.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CAS 142 - OS/2 Operating System
This course is an in-depth study of OS/2 Operating System and will address the advantages, the disadvantages and the possible future of this operating system.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120

CAS 146 - Introduction to Computers and Multimedia
Students learn about using the computer to integrate and control diverse electronic media such as computer screens, video disc, CD-ROM disks, and speech and audio synthesizers.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120

CAS 147 - Introduction to Microcomputer Graphics
This course is an introduction to microcomputer graphic packages. Students will use paint and draw programs as well as clip art and scanned images to produce presentation quality documents. They will learn basic page layout that includes both written text and graphic images. The students will use authoring languages and software to produce on screen presentations.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4
Prerequisite: None

CAS 200 - Database Processing II
A continuation of CAS 109 which provides additional instruction and practice with a programmable database system.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: CAS 109

CAS 203 - Introduction to Local Area Networks
In this course the student will learn the fundamentals of creating, maintaining, and operating a local area network (LAN) of microcomputers. Several major LAN software systems will be compared. The student will setup and operate a LAN.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120, or instructor consent

CAS 204 - Advanced Local Area Network Administration and Maintenance
Using an existing network, the student will connect a LAN to a mini/mainframe host. The student will be able to set up specialized LAN servers. He will be able to create simple menus for users. He will be able to monitor and analyze LAN performance. The student will also be able to setup a remote, dial in workstation on the network.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: CAS 200

CAS 208 - Desktop Publishing
An introduction to desktop publishing using a major commercial desktop publishing software package running on a microcomputer. Basic principles of commercial graphics and page layout as well as software operation will be covered.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: CAS 101 or OSC 222

CAS 210 - Introduction to Mini/Mainframe Operations
This is an introductory course to mini and mainframe computers. The student will learn time-sharing and systems management concepts as well as micro-mini communications.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisite: CAS 115 or instructor consent

CAS 211 - Spreadsheet Applications II
A continuation of BUS 210 to provide training in the advanced features of modern spreadsheets including macros, graphics, database functions, and importing and exporting data to and from other application software. More complex spreadsheet models will be presented.
Course Hours Per Week: Class 2, M. Lab 2.
Quarter Hours Credit 3.
Prerequisite: CAS 130

CAS 220 - Microcomputer Maintenance and Installation
This course is an introduction to microcomputer maintenance and peripheral setup. Topics covered in the course include: mother board switch setting, installing cards, connecting peripherals, and using diagnostic software.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120, or instructor consent

CAS 222 - Microcomputer Training and Support
This course beginning with an introduction to adult training theories followed by lessons covering: sequencing content, presentation methods, effective listening skills, and preparing training aids. Student practice their training skills in the labs.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120, or instructor consent

CAS 224 - Microcomputer Systems Project
In this class the student has the opportunity to use the skills and knowledge gained in other Micro Computer courses to propose and implement a solution to a computer related business problem. The design will be a system that could actually be used in a business setting. It will cover all phases of the process from analyzing the needs of the business to documenting how the installed system will be supported.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisites: CAS 115, CAS 120, CAS 109, CAS 130, CAS 200, or instructors consent.

CAS 226 - Microcomputer Word Processing II
This course builds on the content learned in Microcomputer Word Processing I. In this class the students learn to use more advance features of the word processing program including merging documents, creating tables, inserting graphics in a document, and creating sophisticated reports.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisite: CAS 125 or instructor consent

CAS 235 - Data Base Management
This course will cover the learning principles and techniques about databases: What they are, how they work, and what they could be used for. The database provides a way of finding, editing, and creating information quickly and easily on a chosen reference point.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

CHM 101 - Introduction to Chemistry
This course offers a basic introduction to elements, compounds, mixtures, symbols, formulas, and weight relations in reactions and solutions. Students will be introduced to basic laboratory equipment and techniques.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: MAT 121

CHM 109 - Water Analysis I
This is a course in the practical analysis of water with emphasis on marine-oriented techniques and procedures.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: CHM 101 or CHM 118

CHM 114 - Basic Chemical Concepts I
This is the first course of a two-quarter sequence in which the basic fundamentals of chemistry are introduced. Topics to be covered include: measurements; properties of matter; elements, compounds, and mixtures; ions and compound formulas; moles; reactions and weight relations; solutions; and oxidation-reduction reactions. The laboratory sessions stress routine apparatus and techniques in conjunction with lecture material.
Course Hours Per Week: Class 5, M. Lab 6.
Quarter Hours Credit 7.
Prerequisite: None

CHM 115 - Basic Chemical Concepts II
This is the second course of a two-quarter sequence in which the basic fundamentals of chemistry are introduced. Topics to be covered include: electrochemistry, gases, solubility, and pH. The laboratory sessions stress routine apparatus and techniques in conjunction with lecture material. A special unit on laboratory hazards and safety is included.
Course Hours Per Week: Class 5, M. Lab 6.
Quarter Hours Credit 7.
Prerequisite: CHM 114

CHM 116 - Descriptive Chemistry
This is a course in which specific elements, their properties, compounds, sources, and uses are discussed. In the laboratory, preparation, detection and reactions of selected groups of elements are explored. The use of spectrophotometers is introduced. In conjunction with ENG 103, the student will prepare a written report on an assigned element.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: CHM 115

CHM 118 - Basic Chemistry
This course has been designed to acquaint the student with some of the basic chemical concepts. Discussions of hazardous materials will be included.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Pre/Corequisite: MAT 121 or pass math pretest

CHM 130 - Organic Chemistry I
This is a survey course in which the nomenclature and properties of organic compounds are introduced. An introduction to infrared spectra is included.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: CHM 115

CHM 140 - Unit Processes
This is a laboratory course in which the student sets up and carries out such procedures as distillation, reflux, chromatography (paper, thin layer, column, and gas-liquid }GLC{, high-performance liquid }HPLC{), extraction, ion exchange, and spectroscopy (infrared, ultraviolet visible, and atomic absorption).
Course Hours Per Week: Class 1, M. Lab 18.
Quarter Hours Credit 7.
Prerequisites: CHM 116, CHM 130

CHM 150 - Industrial Operations
This is a survey course in which selected examples of process equipment used in the chemical industry are discussed. The students are introduced to and practice calculations necessary in the design and utilization of such equipment.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisites: CHM 116, CHM 130

CHM 224 - Water Analysis II
This course a continuation of Water Analysis I as a course in the practical analysis of water with emphasis on marine-oriented techniques and procedures.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: CHM 101 or CHM 118

CHM 231 - Organic Chemistry II
This is a continuation of the Organic Chemistry series in which organic reactions and syntheses are discussed and carried out in the laboratory. The students analyze results with such techniques as infrared (IR) spectroscopy, gas chromatography (GC), and high performance liquid chromatography (HPLC).
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisites: CHM 130, CHM 140

CHM 232 - Organic Chemistry III
This is a continuation of the Organic Chemistry series in which the chemistry of carbonyl compounds is stressed. In the laboratory, individual student projects are carried out.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: CHM 231

CHM 233 - Biochemical Concepts
This course is a continuation of organic chemistry, dealing with the structure, properties, and metabolism of biomolecules such as lipids, carbohydrates, proteins, and enzymes. Production, formulation, and testing of food additives and pharmaceuticals will be covered.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: CHM 232

CHM 243 - Industrial Analysis I (Qualitative)
This is a laboratory course in which the students are expected to detect and report the presence of unknown cations and anions in prepared test solutions. (Qualitative Analysis)
Course Hours Per Week: Class 1, M. Lab 6.
Quarter Hours Credit 3.
Prerequisite: CHM 140

CHM 244 - Industrial Analysis II (Quantitative)
This is a laboratory course in which routine quantitative analyses are carried out. The techniques of gravimetry, titration, electroanalysis, spectroscopy (UV-VIS, AA, AE, colorimetry), chromatography (TLC, GC), and specific ion meters are practiced. Calibrations are stressed, and statistical analyses of results are practiced.
Course Hours Per Week: Class 1, M. Lab 9.
Quarter Hours Credit 4.
Prerequisite: CHM 243

CHM 245 - Industrial Analysis III (Quantitative)
This is a course in which the sources, uses, analyses, and treatments of water are discussed. In the laboratory, quantitative analysis, begun in the sixth quarter (CHM 244), is continued with emphasis on water analyses.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: CHM 244

CJC 102 - Introduction to Criminology
This is a general course designed to familiarize the student with contemporary and historical theories of criminal behavior. An overview of social factors dealing with criminal behavior will also be given.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 103 - Introduction to Criminal Investigation
This is a study of the elements of investigation from discovery through presentation in court. The student is introduced to preliminary investigation, collection and preservation of evidence, interviews and interrogation, descriptions of persons and property, sources of information, investigative report writing and case presentation.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 105 - Firearms
This is a study to help the student develop an understanding, use and respect for various types of firearms. Range practice will be given in the use of rifles, shotguns, and pistols with a special effort made to develop proficiency in the use of the service revolver. Instruction will be given in non-lethal weapons such as tear gas, and defensive tactics used in the handling of arrested persons.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: Consent of Instructor

CJC 108 - Research and Planning in Criminal Justice
This course allows the student to conduct research and planning under the direct supervision of a criminal justice instructor.
Course Hours Per Week: Class 1, M. Lab 6.
Quarter Hours Credit 3.
Prerequisite: Consent of Instructor

CJC 110 - Criminal Investigation
This course is a study of the fundamentals of criminal investigation. Specific offenses are examined such as: burglary, robbery, homicide, and larceny.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 115 - Criminal Law
This course is a study of North Carolina substantive criminal law. The elements of criminal laws, legal definitions, and rules of evidence are examined.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CJC 118 - Defensive Tactics
This is a course designed to provide the student with basic self-defense skills. Instruction will include preliminary exercises to develop balance, movement, and leverage as used in jujitsu.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

CJC 130 - Law Enforcement Training
This course is designed to provide the student with the skills and knowledge necessary to perform those tasks essential to function in law enforcement. The course consists of 394 hours of instruction in the following topic areas:

(1)	Course Orientation	8 Hour
(2)	Laws of Arrest, Search, and Seizure	16 Hours
(3)	Mechanics of Arrest:	
	Arrest Procedures	8 Hours
	Vehicle Stops	6 Hours
	Custody Procedures	2 Hours
	Processing, Fingerprinting, and Photographing Arrestee	4 Hours
(4)	Defensive Tactics	16 Hours
(5)	Firearms	48 Hours
(6)	Law Enforcement Driver Training	16 Hours
(7)	Constitutional Law	4 Hours
(8)	Law Enforcement Communications and Information Systems	4 Hours
(9)	Elements of Criminal Law	24 Hours
(10)	Juvenile Laws and Procedures	8 Hours
(11)	Emergency Medical Services	40 Hours
(12)	Patrol Techniques	16 Hours
(13)	Crime Prevention Techniques	4 Hours
(14)	Field Notetaking and Report Writing	12 Hours
(15)	Crisis Management	10 Hours

(16)	Special Population	12 Hours
(17)	Civil Disorders	8 Hours
(18)	Criminal Investigation	28 Hours
(19)	Interviews: Field and In-Custody	8 Hours
(20)	Controlled Substances	8 Hours
(21)	ABC Laws and Procedures	4 Hours
(22)	Electrical and Hazardous Materials Emergencies	12 Hours
(23)	Motor Vehicle Laws	20 Hours
(24)	Techniques of Traffic Law Enforcement	6 Hours
(25)	Preparing for Court and Testifying in Court	12 Hours
(26)	Dealing with Victims and the Public	8 Hours
(27)	Testing and Examination	9 Hours
*(28)	Review	6 Hours
*(29)	Testing	7 Hours

*Not mandated by Title 12 of the Administrative Code, but is required by Cape Fear Community College.

Course Hours Per Week: Class 12, M. Lab 24.
Quarter Hours Credit 20.
Prerequisite: None

CJC 131 - Police Officer Training
This course consists of twenty (20) hours of Traffic Accident Investigation and two (2) hours of review. Students who wish to take the State examination for police officer must successfully complete CJC 130, CJC 131, and CJC 133.
Course Hours Per Week: Class 2.
Quarter Hours Credit 2.
Prerequisite: None

CJC 132 - Deputy Sheriff Training
The topics in this course consist of the Civil Process and Custody Procedures. Student will receive twenty-four (24) hours of instruction on the Civil Process, eight (8) hours on Custody Procedures, and one (1) hour of review. Students who want to take the State examination for deputy sheriff must successfully complete CJC 130, CJC 131, and CJC 133.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: None

CJC 133 - Physical Training
This course consists of forth-four (44) hours of training in nutrition and physical fitness. It is designed to engage the Basic Law Enforcement Training student in a physical fitness program that will improve endurance, strength, and agility required for the performance of law enforcement duties.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

CJC 140 - Fingerprint Identification
This course is a survey of the use of fingerprints in criminal investigations. Examination, comparison, and classification of fingerprints is included. The Henry System of classification is taught with additional modifications and F.B.I. extensions.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CJC 141 - Handwriting Identification
This is an introduction to the fundamentals of handwriting identification. An analysis of standard and deviant letters is studied in comparing questioned writings.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CJC 150 - Introduction to Criminal Justice
This is a general course designed to introduce the student to the historical, philosophical and contemporary views in the criminal justice system. This course also includes a study of the local, state and federal criminal justice agencies, their jurisdiction, organization, purpose, and objective.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CJC 203 - Forensic Photography
A survey of the use of photography in criminal investigation is examined in this course. The use of photographic equipment and darkroom procedures are included. Simulated crime scene exhibits are prepared for moot court testimony.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 205 - Scientific Evidence
This course examines the admissibility of evidence in a court of law. Emphasis is given to the types of scientific evidence which is within the jurisdiction of the courts.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 208 - Arson Investigation
This is a study of the techniques used to investigate arson cases. It includes investigative techniques, crime scene investigation, and laws applicable to unlawful burning.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 211 - Introduction to Criminalistics
This is a general survey of the methods and techniques used in modern scientific investigation of crime, with emphasis on the practical use of these methods by the students. Laboratory techniques will be demonstrated and the student will participate in actual use of scientific equipment.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: CJC 210

CJC 220 - Law Enforcement Organization and Management
Included in this course is an examination of the principles of organizational structure within police agencies. The duties and responsibilities of the police administrative staff will be examined. Recruitment, training, and discipline will be presented as part of the course study.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 222 - Crime Scene Investigation
This is a course which emphasizes collecting physical evidence at the crime scene. Topics included in this course are identification of physical evidence, the care of physical evidence, and the various types of evidence.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 224 - Industrial Security
This course is a general survey of the methods and techniques utilized in theft prevention. Primary emphasis will be placed on alarm systems used in industry.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 230 - Contemporary Issues in Criminal Justice
This course is a study of controversial issues affecting the criminal justice system. Topics may include use of deadly force, civil liability, police discretion, politics, and unionism.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

CJC 240 - Firearms Identification
This course is an introduction to the fundamentals of bullet and tool mark comparisons. The comparison microscope is used by the students to examine the bullets and tool marks for individual and class characteristics.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

CSC 165 - Basic Programming for Engineering Technology
This is a fundamental course which develops the concepts of basic programming language. There will also be an introduction to a word processing language.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: MAT 121

CSC 201 - BASIC Language Programming I
This introductory course of programming allows the student to identify and be able to work with an IBM Personal Computer, the processes of developing programs for this computer through the use of flow charts, and the BASIC language. The emphasis is placed on obtaining computational results without developing style of production or theory of programming.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

CSC 210 - BASIC Language Programming II
This course provides the student who is already proficient in the fundamental techniques of BASIC programming with extended command functions and advanced operations. Included are internal and external data files, control formatting, multi-dimensional arrays, advanced string variables, subroutines, and an exposure to the Assembler Language.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: CAS 201

CSC 215 - Introduction to Programming in C
This is an introductory course in C Language. Laboratory exercises are used to provide experience in solving business data processing problems using C Language. C programs may be executed on a microcomputer running MS-DOS/PC-DOS or the UNIX operating system.
Course Hours Per Week: Class 3, M. Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

CSC 217 - Introduction to Pascal Programming
In this introductory course the students will use Pascal programming language on a micro computer. They will learn how to use a structured programming language with an emphasis on modular programming concepts.
Course Hours Per Week: Class 2, M. Lab 4.
Quarter Hours Credit 4.
Prerequisite: None

CSC 230 - BASIC Business Programming
An introductory course in BASIC programming designed for the business student with a knowledge of accounting. The BASIC language is used to program typical business problems. BASIC statements including PRINT, READ, LET, INPUT, GO TO, IF/THEN, and FOR/NEXT are introduced and used in programming exercises.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: ACC 120

DDF 203 - Design and Computer Aided Drafting
Research to solve a problem in design will be implemented by consulting various manuals, periodicals, and through laboratory experiments. Preliminary design sketches, layout drawings, detail drawings, assembly and sub-assembly drawings, and specifications are required as a part of the problem. Computer graphics will be continued with an emphasis on design.
Course Hours Per Week: Class 6, M. Lab 6.
Quarter Hours Credit 8.
Prerequisite: DFT 202

DFT 100 - Technical Drafting
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use by reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

DFT 101 - Technical Drafting
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use by reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan. This course covers more material and requires more drawings to be graded than DFT 100.
Course hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: None

DFT 102 - Technical Drafting
This course covers material from the application of orthographic projection principles to the more complex drafting problems. Primary and secondary auxiliary views, simple and successive revolutions, and all types of sections and conventions will be studied.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: DFT 101

DFT 103 - Technical Drafting
This course covers the graphic symbols for electrical and electronic diagrams, use and application of welding symbols, principles and methods of pipe drafting, procedures of drawing and projecting axonometric, oblique, and perspective drawings. Emphasis will be placed on practical application.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: DFT 102

DFT 106 - General Drafting
This is a very broad overview of drafting and its application as a tool for graphical communication. An emphasis will be placed on standards and techniques. This will allow the student to present a graphical solution to a second party with reasonable accuracy, clarity, and in accordance with industrial standards.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: None

DFT 117 - Drafting and Blueprint Reading
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

DFT 200 - Dimensioning and Tolerancing
Standard drafting practices per ANSI Y14.5. Includes general dimensioning; general applications of tolerances and limits; tolerance of position and form; and advantages of true position tolerancing.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: DFT 102 or consent of instructor

DFT 201 - Technical and Computer Aided Drafting
Topographical drawing and mapping will be introduced. Plat plans, contours and profiles will be drawn. Use and care of the transit will be studied in the field. Dimensioning practices for "details" and working drawing, as approved by the American Standards Association will also be included. Screws, screw threads, springs, keys, and rivets will also be included in the course of study. Computer graphics will be used to give drafting students a basic working knowledge of hardware and solftware interaction, and how these basics may be applied to computer graphics in general.
Course Hours Per Week: Class 6, M. Lab 6.
Quarter Hours Credit 8.
Prerequisite: DFT 103

DFT 202 - Technical and Computer Aided Drafting
Basic mechanisms of motion transfer, gears, and cams will be studied and drawn with emphasis on methods of specifying, calculating, dimensions, and delineating. This course covers intersection and developments along with their practical solution. Where applicable, model solutions accompany the problems. Advanced techniques in Computer Aided Drafting (CAD) will also be included. Emphasis will be placed on the integration of a prior knowledge of drafting standards into computer graphic commands.
Course Hours Per Week: Class 6, M. Lab 6.
Quarter Hours Credit 8.
Prerequisite: DFT 201

DFT 204 - Technical Drafting
Topographical drawing and mapping will be introduced. Plat plans, contours and profiles will be drawn. Use and care of the transit will be studied in the field. Dimensioning practices for "details" and working drawing, as approved by the American Standards Association will also be included. Screws, screw threads, springs keys, and rivets will also be included in the course of study.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: DFT 103 or consent of the Instructor

DFT 205 - Computer Aided Drafting
This course is an introduction to Computer Aided Drafting and Design systems. It will prepare student to operate the systems and understand the applications of computer graphics to industry standards. Students will learn to use interactive computer related information on a magnetic disc and produce commercial quality copies using a computer driven plotter.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: DFT 103 or consent of the Instructor

DFT 206 - Computer Aided Design and Manufacturing
The computer as an instrument for rapid development of concepts in design. Emphasis will be placed on plant arrangement where work areas and equipment layouts are rendered practical and safe. Computer Aided Design and Manufacturing will be continued through demonstrations and limited hands-on exercises.
Course Hours Per Week: Class 1, M. Lab 9.
Quarter Hours Credit 4.
Prerequisite: DFT 106

ECL 113 - Environmental Measurements
This is a field course in which students will be involved in doing ecological surveys of the Cape Fear region. Collection methods of data and compilation will be emphasized throughout the course.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

ECO 102 - Economics I
This course introduces Business Administration, Secretarial, and General Office students to the rudiments of economics. The course emphasizes supply and demand analysis, market equilibrium and cost/revenue analysis from the points of view of consumers and the individual firm.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

ECO 104 - Economics II
This course extends the basics acquired in Economics I into coverage of the economy of an entire country. The course emphasizes national economic measurements, growth cycles, and government policies. Economics examines the monetarist and neo-keynesian debates of economic policy.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: ECO 102

ECO 108 - Consumer Economics
Students will study the efficient use of family resources with emphasis placed upon money management in the purchasing of shelter, food, transportation, clothing, and insurance. Included will be a study of the productive use of credit and retail sales.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

ECO 150 - Microeconomics
This course introduces students to the rudiments of economics. Emphasis is placed on supply and demand analysis, market structures, and cost-revenue analysis from the perspective of the consumer and the individual firm.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

ECO 151 - Macroeconomics
This course examines the basic concepts of a national economy with emphasis on fiscal and monetary policies, measures of econmomic performance, growth cycles, economic indices, and models.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

EDU 250 - Teacher, School, and Society
An introduction to the profession of teaching that acquaints prospective teachers with the diverse roles of teachers. Focuses on the teacher as a decision-maker; careers in education; the social, historical and philosophical foundations of education; governmental and organizational aspects of schools; and current and future trends in American education. Observation skills are developed through field experience.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

EDU 205 - Teaching Methods
This course is designed to teach the skill necessary in preparing lesson plans and using various methods of instructing other persons.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: None

ELC 100 - Electricity I
This course is an introduction to basic theories and principles of electricity. Basic electrical units, Ohm's Law, symbols, power sources and electrical measuring instruments in coordination with basic DC series and parallel resistive circuits will be covered. Practical applications will be stressed. This course is not transferable to the Electronics Engineering or Instrumentation Technology curriculums.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

ELC 101 - Electricity II
This course is a continuation of ELC 100. It will cover an introduction to magnetism, inductance, alternating current, theory, capacitance, reactance phase relationship, AC power and transformers, generators, alternators, and distribution system. Voltage and current regulation along with practical applications will be stressed. This course is not transferable to the Electronics or Instrumentation Technology curriculums.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: ELC 107, or ELC 100 or proficiency test

ELC 107 - Electricity I
This fundamental course is an introduction to basic theories and principles of electricity. It includes electrical symbols, electrostatics, Ohm's Law, direct current (DC) circuits, power, power sources (DC), circuit theorems, electrical measuring devices, and an introduction to electromagnetism, capacitance and inductance. Practical applications are highly stressed.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Pre/Corequisite: MAT 121

ELC 108 - Electricity II
This course is a continuation of ELC 107. It is an introduction to alternating current theory, sine and pulse wave analysis, inductance, capacitance, reactance, phase relationships, AC power, and transformers. Simple power distribution systems are studied.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELC 107 Pre/Corequisite: MAT 122

ELC 109 - Electricity III
This course is a continuation of ELC 108. Topics studied will include RLC circuits and resonance filters. The practical applications of theses concepts are highly stressed.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELC 108 Pre/Corequisite: MAT 123

ELM 208 - Control Systems
This course covers the basic principles of electrical, electronic, and pneumatic control systems as related to industrial applications. The basic design and functions of circuits, motors, tranducers, and servomechanisms, and a review of the National Electric Code are included.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: PHY 102

ELN 102 - Electronic Fabrication Techniques
This is a basic course to introduce electronic circuit construction and wiring practices. Topics included are, soldering/desoldering techniques, component layout, and the interpretation of schematic wiring diagrams. The course is structured to increase the students' manipulative skills using common electrical handtools.
Course Hours Per Week: Lab 2.
Quarter Hours Credit 1.
Prerequisite: None

ELN 106 - Electronics I
This course covers the theory and application of two-terminal semiconductor devices, and bipolar transistor circuits, including biasing method, small-signal analysis, interstage coupling and feedback.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Pre/Corequisite: ELC 108, MAT 121, MAT 122

ELN 107 - Electronics II
This course is a continuation of ELN 106. Topics covered are power supplies and regulators, theory and application of Junction and Mos field effect transistors, multistage amplifiers, feedback methods, oscillators, multistage circuitry, power amplifiers and feedback.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 106
Pre/Corequisites: ELC 109, MAT 122

ELN 108 - Electronics III
This course is a continuation of ELN 107. Topics include unijunction and multijunction switching devices, linear integrated circuits, and optoelectronic devices.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 107

ELN 121 - Digital Electronics I
This course deals with Boolean Algebra as applied to digital logic and control devices. Principles of Boolean Algebra, Karnaugh mapping, and various number systems will be examined. Practical circuits using industry standard components will be constructed during laboratory sessions. Course Hours Per Week: Class3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 108

ELN 122 - Digital Electronics II
Basic computer and static control logic circuits will be studied. Discreet components will be used to construct logic circuits and investigate voltage levels, propagation delays and switching speed. Boolean principles relating to each type gate will be investigated.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisites: ELN 108, ELN 121

ELN 140 - Introduction to Marine Electronics
This course is a continuation of ELC 101 emphasizing marine related applications. The course of study includes an introduction to radar, sonar, communications, sound and electromagnetic wave propagation. Common types of equipment, circuits, testing and measuring devices are studied. In all areas of study, practical applications are stressed.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Pre/Corequisite: ELC 101

ELN 202 - Communication Electronics
This course will present basic laws, regulations and operating procedures governing communications in the United States. An in-depth study of solid state device applications in various communication circuits will be conducted. Theory of and special uses for vacuum tubes will be presented.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 108

ELN 204 - Electronic Projects, Basic Wiring
This course will introduce wiring and troubleshooting techniques to the student. The student will practice wiring and testing basic electronic circuits. Project selection will be approved by the instructor.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisites: ELN 108, ELC 109

ELN 205 - Analytic Electronic Troubleshooting
This course is designed to follow ELN 204. It is an advanced study of analytic techniques for troubleshooting complex electronic systems.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisite: ELN 204

ELN 206 - Electronic System Design and Construction
This course emphasizes the design, construction and testing of a functional electronic system. Printed circuit design is emphasized and advanced troubleshooting techniques are employed in a design project. Project selection to be approved by the instructor.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisite: ELN 205

ELN 220 - Electronic Systems
This course will cover the operating concepts of numerous electronic systems. Modules or blocks of various circuits, previously studied, are arranged in various combinations to produce complex electronic systems. Each system will be explained and reduced to functions and then to block diagrams. AM, FM and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, telemetry, navigational systems, sonar and radar will be considered.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: ELN 202

ELN 221 - Microprocessors I
An in-depth study of integrated circuit logic devices used in microprocessor applications will be conducted. This study will include logic gates, memory devices, arithmetic logic units and input/output ports.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: ELN 122

ELN 222 - Microprocessors II
This course will be a continuation of ELN 251. Logic concepts previously studied will be used in an in-depth investigation of various microprocessors. Current uses of microprocessors in industrial applications will be presented. Applications of both Machine and Assembly Languages will be presented.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: ELN 221

ELN 223 - Microprocessor Industrial Control Applications
Current uses of microprocessors in various industrial control applications will be studied in this course.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Prerequisite: ELN 221

ELN 224 - Measurement and Control I
This course is an introduction to the study of process instrumentation. The need for process control will be discussed. Symbols and types of drawings used in process control are studies. An overview of the various types of process measurements will be presented. In lab, the students will be introduces to the various types of pressure and electrical calibration methods.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisites: ELN 108, ELN 121, PHY 100, CHM 118

ELN 225 - Measurement and Control II
This course is a study of control theory utilizing electronic and pneumatic instruments. Control loops, electronic, and pneumatic will be studied, constructed, and calibrated for actual "in-service" conditions.
Course Hours Per Week: Class 2, M. Lab 9.
Quarter Hours Credit 5.
Prerequisite: ELN 224

ELN 226 - Measurement and Control III
This course is a continuation of ELN 225, Measurement and Control II. Emphasis will be placed on current techniques in industrial instrumentation, instrument installations and environmental conditions affecting industrial applications of automated systems. Environmental control utilizing electronic and pneumatic systems will be studied.
Course Hours Per Week: Class 2, M. Lab 9.
Quarter Hours Credit 5.
Prerequisite: ELN 225

ELN 227 - Industrial Motor Control
This course offers a familiarization of alternating and direct current motors and controls used in industrial applications. Basic alternating and direct current motor theory will be studied. Various types of AC and DC controls will be studied including DC variable speed drives and AC variable frequency drives.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisites: ELN 108, ELN 121, PHY 100

ELN 231 - Electronics in Industry
This course emphasizes theory and application of electronic devices used in industrial monitoring and control applications. It will include solid state devices, basic control concepts, control circuits, transducers, variable speed motor controls, and magnetic amplifiers.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisites: ELN 108, ELN 122

ELN 235 - Microprocessors, Servocontrols, and Robotics
This course will present theory of, and industrial applications for, servomechanisms and robotics. It will include studies of servomechanisms, digital circuits, microprocessors, data conversion, data communication, optoelectronics, automation, and robotics.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: ELN 231

ELN 236 - Industrial Field Trips
This course will consist of field trips to local industries and lectures by instrument technicians and engineers who work with the company.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisites: ELN 108, ELN 121

ELN 237 - Introduction to Computer Systems
This course is designed to present the general concepts of microprocessor organization and structure to the student. Machine and Assembly Language will be introduced.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisite: ELN 121
Corequisite: ELN 122

ELN 238 - Antenna and Transmission Line Theory
This course is a study of antenna and transmission line theory. Methods of transferring radio frequency energy from its source to the antenna and radio wave propagation characteristics will be studied.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: ELN 202

ELN 239 - Computer Systems
A study of computer architecture and the operating system giving consideration to the general organization of the computer. Particular attention will be given to troubleshooting procedures used to analyze and facilitate the repair of digital computers. Troubleshooting utilizing hardware and software diagnostic tools will be introduced.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisites: ELN 245, ELN 221

ELN 240 - Computer Project (Digital)
This course is designed to provide the student with digital design techniques from concept through construction. Each project selection to be approved by the instructor.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisites: ELN 108, ELN 121

ELN 243 - Computer Electronics
A study of linear electronic circuits directly related to digital computer applications. Video amplifiers, low voltage and high voltage power supplies, deflection circuits and data transmission systems will be introduced.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: ELN 108

ELN 244 - Computer Project (Microprocessor)
This course is a continuation of ELN 240. This project will be oriented toward microprocessor applications.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: ELN 240

ELN 245 - Peripheral Devices
This course is an introduction to the theory of operation of digital computer peripheral devices such as printers, plotters, and disk drives. Particular attention will be given to maintenance and preventive maintenance procedures.
Course Hours Per Week: Class 1, M. Lab 6.
Quarter Hours Credit 3.
Prerequisite: ELN 243

ELN 247 - Computer Project (Microcomputer)
This course is a continuation of ELN 244. This project will be oriented toward microcomputer applications.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: ELN 244

ELN 249 - Computer Interfacing
This course is designed to present digital computer applications. Topics to be introduced include display multiplexing, I/O control and handshaking, peripheral interface adapters, analog to digital conversion and digital to analog interfacing.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: ELN 221

ENG 090 - Grammar Fundamentals
This course is designed to develop basic grammar and writing skills by reviewing basic rules of grammar with an emphasis on correct usage. It includes coverage of subject/verb agreement, punctuation, spelling, verb forms, pronoun reference, and sentence structure. The student will practice simple sentence writing. Laboratory work may be required.
Course Hours Per Week: Class 5.
Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

ENG 091 - Fundamentals of Composition
This course reviews basic rules of grammar and introduces the student to the techniques of writing paragraphs with continued emphasis on sentence structure and paragraph development. Laboratory work may be required.
Course Hours Per Week: Class 5.
Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: Satisfactory completion of ENG 090 when both courses are indicated by entry testing to be required.

ENG 101 - Grammar
The course is designed to aid the student in the improvement of grammatical self-expression. This approach is functional with emphasis on grammar and sentence structure. It is intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: Satisfactory completion of ENG 090 if entry testing requires ENG 090.

ENG 102 - Composition
This course is designed to help students improve dictionary skills and implement grammar skills learned in ENG 101, as well as to improve spelling, punctuation, and mechanics. Practice is given in writing sentences, paragraphs, and compositions of one to five paragraphs. Emphasis is placed on rewriting, topic sentences, transitions, and conclusions. Paragraph development techniques as well as modes of writing such as exposition, description, and argumentation are practiced. Students will also work on proofreading and rewriting skills.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: ENG 101

ENG 103 - Report Writing
The fundamentals of English grammar and composition skills learned in ENG 102 are utilized as background for modern report writing. Typical reports using writing techniques and graphic devices are studied. A letter of application and resume are prepared. In addition to using writing and dictionary skills, attention is given to acquainting the student with library materials needed for research. A full-length report is required of each student. The report should relate to the student's specific curriculum or other related topics approved by the instructor.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: ENG 102 or ENG 105

ENG 104 - Reading and Composition
English 104 is designed to advance the student's compositional skills through the reaction in writing to various reading materials. The course builds vocabulary and dictionary skills as a background for the reading of a variety of materials such as textbooks, newspapers, and imaginative literature. It entails the finding of main ideas, the building of critical and evaluative skills, and gives an awareness of connotative and figurative language seen in the reading of poems, short stories, and a novel.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: ENG 102 or ENG 106

ENG 105 - Grammar and Composition
This course is designed to aid the student in the improvement of grammatical self-expression. The approach is functional with emphasis on grammar, diction, sentence structure, and punctuation. It is intended to stimulate students to apply the basic principles of English grammar in their day-to-day situations in industry and social life.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

ENG 106 - Grammar and Composition
This course advances the student from ENG 105's basic mastery of word and sentence skills to include more advanced forms of grammar and usage in their application to written language. More advanced study, such as the uses of subordination, dictionary skills, spelling, and the use of the library to its fullest is included. The course culminates in the writing of a research paper.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: ENG 105

ENG 114 - Oral Communication
This course considers the basic concepts and principles of oral communication in order to help the student improve his speech communication skills. Emphasis is placed on organization of thoughts, listening, audience analysis, visual and audiovisual aids, voice, diction, pronunciation, projection, and attitude, on the application of techniques to improve speech habits and mannerisms, and on the production of poised, confident, effective oral presentations.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

ENG 151 - English Composition I
This course is an introduction to composition at the college level. Although it is designed for the student who already meets the basic competencies in the areas of sentence sense and basic grammar, a review of grammar, usage, and diction is included. The student practices techniques of invention, development, organization, editing, and revision. The course introduces the processes of writing and the structuring of paragraphs. Emphasis is placed on learning the modes of narration, exposition, description, and argumentation. Frequent paragraphs are required.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: Satisfactory placement test score or grade of C or better in ENG 102

ENG 152 - English Composition II
This course, a continuation of ENG 208, will present the basic writing processes and techniques needed to produce effective essays. Through reading and reacting to printed and other materials, the student develops thinking skills which will be applied to the construction of themes and a research paper. Basic techniques of research and documentation such as notetaking, summarizing, critiquing, and quoting are studied.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 151

ENG 160 - Introduction to Literature
An introduction to literature through study of the genres of drama, poetry, and the short story. The student studies plot, characterization, figurative and symbolic language, form, and theme. Interpretation of literary works will be emphasized, and a number of interpretive paragraphs and themes will be written.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 207 - Poetry Writing
This course will cover instruction in writing poetry. It includes criticism and class discussion of original poems by students, practice in various verse forms, and development of the student's individual abilities.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 151

ENG 250 - Folklore
This course on contemporary folklore will place emphasis on folklore as an informal cultural process rather than as a particular type of cultural expression. The various genres of folklore will be studied as well as their methods of transmission. Students will participate in a folklore field work project in which they will gain hands-on experience in the collection of folklore.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 151

ENG 251 - Great British Writers I
This course studies significant British poetry and prose from Chaucer to the late 1700's. A number of themes, readings, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 252 - Great British Writers II
This course surveys major British poetry and prose writers from the Romantic period to the present century. A number of readings, themes, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 263 - Great American Writers I
This course studies major American poetry and prose writers from Colonial American through the Romantic era. A number of reading, themes, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 264 - Great American Writers II
Major American writers and poets from the middle of the nineteenth century through the middle of the twentieth century are studied. A number of readings, themes, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 275 - World Literature I
Masterpieces of world literature from ancient times through the Renaissance are studied. A number of readings, themes, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

ENG 276 - World Literature II
This course studies masterpieces of world literature from the 17th century into the twentieth century. A number of readings, themes, and interpretive assignments are given.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106 or ENG 152

FRE 150 - French I
This is the first of a three-part course. Mastery of elementary communication skills (vocabulary, grammar, idiomatic expressions, informational phrases, some cultural content) will be targeted through oral and written work, quizzes, daily preparation assignments, written homework, compositions, readings and aural comprehension.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

FRE 151 - French II
This is the second of a three-part course. Mastery of elementary communication skills will be targeted through oral and written work, quizzes, daily preparation assignments, written homework, compositions, readings and aural comprehension.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: FRE 150

FRE 152 - French III
This completes the three-part course. Mastery of elementary communication skills is targeted through oral and written work, quizzes, daily preparation assignments, written homework, compositions, readings and aural comprehension.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: FRE 151

GEL 101 - Marine Geology
A study of major topographical features of the ocean floor will be undertaken in this course. Included will be coverage of continental drift, sea floor spreading, plate tectonics, seismology, sedimentation, paleontology, mineralogy, and petrology as these pertain to the ocean.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

GEL 102 - Geology of the Oceans
This is an introductory course in marine geology. Recent discoveries concerning the ocean floor are discussed in this lecture course. Modern theories of plate tectonics and sea floor spreading are presented by lecture and film. Sediment samples, rocks and minerals collected on recent C.F.C.C. cruises are shown and discussed as they relate to the modern concepts of marine geology.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: None

GEO 150 - Introduction to Physical Geography
This course will cover maps and map projections and their uses as well as analysis of the spatial distribution and character of environmental elements, including climate, land forms, vegetation, and soils.
Course Hours Per Week: Class 4, Lab 4.
Quarter Hours Credit 6.
Prerequisite: None

HIS 150 - Western Civilization I
This course traces the history of Western Civilization from it near Eastern, Grecian, and Roman origins through the Middle Ages. It concludes with coverage of the Renaissance and Reformation periods.
Course Hours Per Week: Class 5.
Quarter Hours Credits 5.
Prerequisite: None

HIS 151 - Western Civilization II
This course is a continuation of HIS 150. It begins with the Absolutism of the Seventeenth Century and covers the rise of constitutionalism, emerging industrialism and nationalism of the nineteenth century, and concludes with the development of modern day economic, cultural, and political life.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

HIS 250 - American History I
This is a survey course designed to cover the history of the United States from the pre-colonial period to Reconstruction in the aftermath of the Civil War. Emphasis is placed on the social, cultural, and economic developments of the republic.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

HIS 251 - American History II
This course is a continuation of American History I and is a survey of the history of the United States from the period of Reconstruction to the present with emphasis on the rise of the United States as a world power.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

HYD 235 - Hydraulics and Pneumatics
This course is an engineering study of basic fluid power transmission systems. Topics covered include: flow measurement, pressure, flow control, types of actuators, power delivery, piping, pump types, energy storage in accumulators, and compressed air systems. Emphasis throughout the course is placed on the application of basic physics principles to the design of fluid power systems.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: PHY 102 or PHY 105

ISC 101 - Industrial Safety
This course addresses safety as set forth by OSHA standards and its application to industry in general. The student will work with OSHA manuals and explore simulated safety violations and discuss possible solutions. The objective is for the student to become familiar with OSHA and general safety standards to the extent that they might reasonably interpret and execute them given the occasion.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

ISC 202 - Quality Control
This course is a study of the principles and techniques of quality control and cost savings; organization and procedure for efficient quality control; functions; responsibilities, structures, costs, reports, personnel, and vendor-customer relationships in quality control; sampling inspection, process control, and tests for significance.
Course Hours Per Week: Class 3, Lab 2.
Quarter HOurs Credit 4.
Prerequisite: None

ISC 203 - Motion and Time Study
This course includes a study of operations analysis, types of process charts, breakeven analysis, micromotion analysis, work measurement techniques, predetermined time systems (MTM), and development of standard data for incentive systems.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

ISC 204 - Industrial Organization and Management
This course is a survey of the history of modern management and the various functions which the manager of a modern industrial enterprise must perform. It includes a study of the various departments that assist the manager in carrying out his responsibilities.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

LEX 101 - Introduction to Paralegalism
This course covers the objectives of the paralegal program, the legal vocabulary, the descriptions of various paralegal jobs, professional ethics, and professional organizations.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

LEX 104 - Investigations
In-depth study of investigating criminal cases, interviews, taking statements, collecting data, and the orderly assemblage for the attorney's use. This course includes study of motions, bail and pre-trial release, locating and interviewing witnesses, including expert witnesses, investigating crime scene sketching, evaluating evidence and determining its sufficiency and admissibility with regard to the 4th, 5th, and 6th Amendments. N.C.G.S. Chapter 15A on Criminal Procedure is discussed.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

LEX 111 - Legal Writing
Continuation of Legal Research and Bibliography course where paralegal student, having mastered basic techniques of legal research, now must utilize results of research in the form of legal writing. This course will emphasize those areas of legal writing where a paralegal may be called upon to employ. Work will be on legal memorandums, both intra-office and legal, as well as letter writing and brief writing.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: LEX 132

LEX 113 - Family Law
The purpose of this course is to train paralegals to handle separations, divorces, annulments, adoptions, and bastardy proceedings from initial interview through data collection and drafting of instruments, giving notice, filing and serving documents, and setting hearing dates to final disposition.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: LEX 135

LEX 114 - Property I
This course is a study in ownership of interest in land, of land transfers, in whole and in part, absolute and conditional, present and future; of retained powers of ownership; and of the documents and procedures necessary to establish interest in land.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: LEX 115 or BUS 115

LEX 115 - Commercial Law I
An introduction course for those majoring in the Paralegal Technology curriculum. The course will involve an introduction to the law, a discussion of the law of contracts, and business organizations. The course will include hands-on experience in drafting of contracts.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

LEX 116 - Commercial Law II
A continuation from Commercial Law I for paralegals with emphasis on the Uniform Commercial Code, personal property and bailment, and agency and employment. The course will include exposure to commercial instruments and drafting business documents.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: LEX 115 or BUS 115

LEX 117 Torts and Litigation Preparation
This course considers the broad problem of personal injury and disability and the legal response to that law. Negligence, strict liability, intentional torts, rules of civil procedure preparation, pleadings, motions, order, discovery materials and post-judgement remedies are covered in great detail.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: LEX 135

LEX 132 - Legal Research/Bibliography
This course introduces the student to the proper methods of utilizing legal research material. The course will introduce the student to the law library and how to select and order material for the library.
Course Hours Per Week: Class 4, Lab 6.
Quarter Hours Credit 7.
Prerequisite: None

LEX 135 - Legal Systems
This course is a study of the jurisdiction of state and federal courts; the acquisition of jurisdiction over parties and subject matter; venue; pleadings and related problems under the North Carolina and Federal Civil Rules of Procedure; real party in interest; splittings of actions; joinder of parties and causes of action; special joinder devices; and forms of pleadings and motions.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

LEX 205 - Constitutional Law
A case study course showing the development of the application of the Federal Constitution to both criminal and civil law and a historic development of Constitutional Law.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

LEX 208 - Administrative Law
This course involves study of various administrative agencies and procedures, including Social Security, Social Services, Veteran's Administration, Industrial Commission and Employment Security Commission.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: LEX 135

LEX 215 - Property II: Title Search
This course includes the study of the preparation of simple contracts for sale of real estate; examination of title; preparing simple titles; and role of judgements and estates in the determination of marketability of real estate title; the study and function of various documents, indices and files on public records in various county offices. Forms for abstracting title information from public records, summaries thereof, and various typical problems and errors which may render a title unmarketable are included.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: LEX 114

LEX 216 - Property III: Loan Closings
This is a continuation of Property II: Title Searching. The course addresses the preparation of closing document in connection with loans. The student is allowed extensive hands-on experience in preparing and drafting all documents relating to conventional, VA, FHA, and other loans.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: LEX 215.

LEX 217 - Elements of Criminal Law and Procedure
This is a study of the elements of crimes in North Carolina, of criminalization and punishment, of parties to crimes, and of defenses to crimes. Criminal procedure is examined and a case's progress through the courts traced.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: LEX 135

LEX 224 - Wills
This course covers the probate and administration of wills. The topics of study include the operation and revocation of wills, descent and distribution in case of intestacy, construction of trust agreements, and the transfer of estate assets.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

LEX 230 - Bankruptcy and Collection
This course will introduce the student to the Bankruptcy Law. The student will understand the operation of the bankruptcy court and will be exposed to the techniques of debt collection and attachment.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: LEX 117

LEX 238 - Paralegal Internship
This course is offered in the final quarter of the Paralegal Technology curriculum and is designed as a co-op.
Course Hours Per Week: Co-op Hours 20.
Quarter Hours Credit 2.
Prerequisite: Completion of 55 quarter hours of LEX courses with a "C" average or better on LEX courses attempted.

LEX 240 - Paralegal Office Procedures
A seminar for discussion of matters related to the internship. The course seeks a sharing of experiences and review of material encountered by the student during the internship. Current issues with regards to paralegalism and the profession of being a paralegal are discussed. The course is student directed based upon their work experience.
Course Hours Per Week: Class 1.
Quarter Hours Credit 1.
Prerequisite: Completion of 55 quarter hours of LEX courses with a "C" average or better on LEX courses attempted.

MAT 090 - Developmental Mathematics
This course is designed to provide the student with the fundamental concepts needed to undertake the mathematical sequences in the technical curricula. Topics include operations on whole numbers, prime numbers, multipliers and factors, powers and roots of whole numbers. Also included are operations on fractions and decimals, percentages, operations on the real number line, and geometry fundamentals.
Course Hours Per Week: Class 5.
Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

MAT 099 - Beginning Algebra
This course covers the fundamentals of high school Algebra I. It is designed to qualify a student for admission into curricula having high school Algebra I as an admission requirement. It is also recommended for those students wanting an Algebra I review in preparation for starting the technical mathematics sequence.
Course Hours Per Week: Class 5.
Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

MAT 121 - Technical Mathematics
This introductory algebra course is the first in a three course sequence. The topics of study are operations with real numbers, introduction to exponents and radicals, operations with algebraic expressions, algebraic fractions, and solving first degree equations.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: High school Algebra I or equivalent and appropriate cut-off score on the admission testing requirement

MAT 122 - Technical Mathematics
This course is the second in a three-course sequence. The topics of study are variation, graphing of functions, introduction to trigonometry and applications to right triangle solution, vectors, exponents and radicals, and exponential and logarithmic functions. Application of theses topics in technical areas of study will be stressed.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 121 or equivalent

MAT 123 - Technical Mathematics
This course is the third in a three-course sequence. The topics of study are systems of equations, quadratic, trigonometric graphs and polar coordinates, trigonometric formulas and equations, and solving oblique triangles.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 122 or equivalent

MAT 150 - College Mathematics I
A survey of mathematical processes and applications for the general student. Not intended as preparation for further mathematics courses. Topics will include logic, number systems, algebra, geometry, and the historical development of mathematics. Emphasis is placed on the importance of mathematics in today's society.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: Entrance Test Qualification

MAT 151 - College Mathematics II
A continuation of the topics begun in Mathematics 150. Topics will include an introduction to probability, statistics, trigonometry, and calculus, with an emphasis on how these topics are applied in today's world. The use of the calculator and computer as tools of mathematics will also be explored.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 150

MAT 160 - College Algebra
A study of linear, quadratic, polynomial, rational, exponential, and logarithmic functions; solution of equations and inequalities; permutations and combinations; the binomial theorem; and mathematical induction.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: High School Algebra II and Entrance Test or C or better in MAT

MAT 161 - College Trigonometry
A study of the definitions and interpretation of the trigonometric functions, including related concepts and applications. Topics include trigonometric identities, graphs of trigonometric functions and their inverse relations, trigonometric equations, triangle solution, vectors, and selected algebra topics.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 160 or MAT 122

MAT 165 - Introduction to Statistics
An introductory study of statistical methods, including organization and presentation of data, probability, probability distributions, hypothesis testing, and confidence intervals. Emphasis will be on computational procedures and applications rather than theoretical development.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 160

MAT 190 - Precalculus
A comprehensive course in precalculus mathematics includes the fundamental concepts of real numbers and functions including polynomial and rational functions, exponential and logarithmic functions and trigonometric functions. Analytic trigonometry including trigonometric identities and equations are developed. Application of these concepts to practical situations is stressed.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 123 or equivalent

MAT 250 - Calculus I
The fundamental concepts of analytic geometry, differential, and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, intergrals, and basic integration techniques. Application of these concepts to practical situations is stressed.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 151 or MAT 190

MAT 251 - Calculus II
A continuation of MAT 250. Topics included are applications of integration to velocity and acceleration problems, area between curves, volume, and work by a variable force. Also included are derivatives of trigonometric, inverse trigonometric, exponential and logarithmic functions, integration of exponential and logarithmic functions, techniques of integration by parts, and the use of tables of integrals. Emphasis is placed on application of these techniques to physical problems.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 250

MEC 121 - Industrial Methods I
Students will be introduced to basic shop hand tools and instructed in there proper use and care. The drill press and its accessories will be demonstrated and the student will be required to complete shop projects as assigned by the instructor. Safety will be stressed throughout the course.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: None

MEC 122 - Industrial Methods II
The lathe, milling machine, and all accessory tools will be introduced to the student. Emphasis will be placed on the machines limits and abilities. Safety rules will be stressed for each machine. Appropriate projects will be assigned by the instructor.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: MEC 121

MEC 123 - Industrial Methods III
Students will study simple part programs for Computerized Numerical Controlled (CNC) machine tools and be introduced to Computerized Aided Design and Computer Aided Manufacturing (CAD-CAM) as used in industry.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: MEC 122

MEC 205 - Strength of Materials
This course is a continuation of PHY 106, Applied Mechanics. It is the study of stress and strain as they relate to structural design. The areas of force analysis of structures, friction, equilibrium, stress, and strain are covered in as much detail as time will permit.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: MAT 123, PHY 106

MEC 207 - Manufacturing Processes
The newer concepts of work handling, automatic machining processes, chipless production, new techniques in metal forming, analysis of high-energy forming, ultrasonic machining, electrolytic metal removal, chemical milling, numerical control system, and production methods in manufacturing are covered.
Course Hours Per Week: Class 4, M. Lab 3.
Quarter Hours Credit 5.
Prerequisite: MEC 123

MEC 209 - Introduction to Metallurgy
This is an introductory course which will describe the properties of ferrous and non-ferrous metals as they apply to industrial applications. Metallurgical theory and practice will be studied to include the physical structure and composition of steel, the making, shaping, and treatment of steel and alloy steel as well as alloys of the common non-ferrous metals to include light metals, copper, nickel and the refractory metals.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

MEC 216 - Industrial Materials
Proper knowledge of all types of industrial materials is essential to successful decision-making and problem-solving. This introductory course investigates the basic materials in industry. Electrical and physical properties of materials, mechanical characteristics of materials, water and steam, industrial gases, ceramic materials, cements and concretes, and metals are studied.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

MKT 232 - Sales Development
This course is a study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations is required.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

MKT 239 - Marketing
This course presents the marketing structure within the framework of the U.S. economic system. The course includes the movement of goods from producer to consumer through channels of distribution, pricing strategies, consumer behavior and market segmentation.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

MRT 100 - Orientation to MRT
Introduces the student to duties and educational requirements of the major allied health professional; explains the functions of the major departments of a hospital; matches the allied health professional to the hospital department; traces the history of medicine, health care facilities, and medical records; describes the structure and history of the AMRA; relates the characteristics of a professional; discusses new trends in health care delivery system; identifies different health agencies and cites the purpose of each; describes the basic functions of a medical record department; specifies the various job opportunities of the ART; and correlates job responsibilities in the medical record department.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: None

MRT 105 - Legal Aspects of Medical Records
Presents the jurisdiction of Federal and State courts; covers the development of legislative and case laws as they relate to changes in social mores; introduces laws written by non-governmental bodies which affect the medical records; describes the property rights and ownership of the medical record; addresses the medical record as a legal document; covers contents, authorization, and releases of medical information; presents statues and hospital policies which govern the uses of medical records as the information contained in them; deals with current legislation which affect the medical record practitioner.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

MRT 201 - Medical Record Content and Maintenance
Covers various numbering and filing systems; retrieving and filing medical records; the importance, uses, and contents of medical records; the contents of various medical record forms; the assembly and quantitative analysis of the medical record; the basic formats of medical records; and the methods of record storage.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

MRT 202 - Medical Record Standards and Regulations
Identifies the major accrediting and licensing agencies and the purpose of each; discusses the role of the JCAHO; cites the medical record standards set forth under Medicare and Medicaid and JCAHO; describes the health record standard for long-term and acute care facilities; recognizes the basic standards for the various hospital departments with emphasis on the medical record regulations.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: None

MRT 203 - Basic ICD-9-CM Coding
Presents the evolution of ICD-CM coding principals; code and define diagnoses and procedures proficiently; discuss the evolution of CPT coding; define the symbols, abbreviations, and conventions used with CPT; apply the coding principles of CPT; code and retrieve diagnoses proficiently.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisites: BIO 121, BIO 122, BIO 117

MRT 204 - Intermediate Coding
Students must apply the ICD-9-CM coding principals; code and define diagnoses and procedures proficiently; discuss the evolution of CPT coding; define the symbols, abbreviations, and conventions used with CPT; apply the coding principles of CPT; code and retrieve diagnoses proficiently.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: MRT 203

MRT 205 - Advanced Coding Concepts
Upon completion of this course, students should be able to apply ICD-9-CM principles in coding medical records; develop procedures for quality control of coding; discuss the methods for indexing diagnoses and operations; index diagnoses and operations in manual and computer systems; discuss the prospective payment system and its relationship to coding practices; define the terms related to the prospective payment system; determine the diagnostic related group number for a given sample of medical records; discuss the purposes of nomenclatures and classification systems; describe the basic principles for utilizing various nomenclatures and classification systems; apply the coding principles of a variety of nomenclatures and classification systems; identify the health care facilities utilizing each of the systems.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisite: MRT 204

MRT 206 - Directed Practice I
The first in a series of three courses which provide supervised clinical learning experiences in local health care facilities. Students should be able to demonstrate competently the ability to communicate effectively with others; accept the personal responsibilities of promptness, personal neatness, and learning of department medical record procedures and practices; apply the theory of medical record practices acquired in MRT 105 and MRT 201 by performing skills as provided in the general hospital.
Course Hours Per Week: Lab 2, M. Lab 6.
Quarter Hours Credit 3.
Prerequisites: MRT 201 or MRT 105
Corequisites: MRT 202

MRT 207 - Directed Practice II
Upon completion of this course, students should be able to demonstrate competent performance of medical record functions in hospital medical records departments to include compilation of statistical reports, coding for prospective payment system, quality assurance, and utilization review procedures; discuss work flow; prepare job description and procedures; compare procedures as performed in hospitals of various sizes, describe the various professional roles of the medical record technician within a hospital, demonstrate professional conduct in preserving confidentiality of health information.
Course Hours Per Week: M. Lab 12.
Quarter Hours Credit 4.
Prerequisite: Sixth Quarter Standing

MRT 208 - Directed Practice III
Upon completion of this course, students should be able to demonstrate competent performance of medical record functions and work flow of various types of health care facilities to include mental health centers/hospitals, group practices clinics, long-term care facilities and other as available; describe professional clinics, long-term care facilities and other as available; prepare job descriptions and procedures; describe the various professional roles of medical record technicians.
Course Hours Per Week: M. Lab 12.
Quarter Hours Credit 4.
Prerequisite: MRT 207

MRT 209 - Medical Record Statistics
Upon completion of this course, students should be able to compute the various hospital statistics and prepare reports; define all terms related to hospital statistics; discuss the procedures for completing vital statistics on births, deaths, and reportable diseases; discuss the sources and use of health data; cite the functions of a Cancer Registry; collect and process data for a Cancer Registry.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisite: BIO 117

MRT 210 - Introduction to Medical Records Transcription
During this course, the student shall prepare sentences, paragraphs, and operative/surgical reports, as well as pathology reports, radiology reports, and typical physical examination reports with a goal of 100 percent accuracy while transcribing at a minimum speed of 30 words a minute. The student shall also be able to respond to questions of legal and ethical standards relating to the medical profession, learn to pronounce new medical terms using phonemes, learn to spell and capitalize commonly used eponyms and other medical terms, demonstrate a general understanding of generic and prescription drugs, drug forms, sources for identification, classifications, the legal aspects of drug control and distribution, stimulants, depressants, and means of administration of drugs. In addition, the student will demonstrate an understanding of NA, SNOMED, and SNOP's attempts at computerization and standardization of medical terminology.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisites: CAS 106, OSC 222, BIO 117

MRT 211 - Quality Assurance in Health Care Facilities
Defines purpose and philosophy of quality assurance; addresses the impact of current health legislation on quality assurance; reviews the history and current status of quality assurance; describes the organization of the Peer Review Organization system; states the JCAHO and federal requirements for quality assurance; reviews quality assurance/assessment procedures; teaches data collection and display utilizing various types of formats; and introduces the basic medical record procedures related to patient review procedures.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisites: MRT 201, MRT 203, MRT 202, MRT 105

MSC 101 - Navigation I
This course introduces students to basic marine piloting techniques using charts, navigational aids, buoys, markers, rules of the road, light and signals.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

MSC 102 - Navigation II
This is a continuation of MSC 101 introducing students to navigational publications and electronic navigational aids. Proper use of electronic equipment (radar, loran, and the gyrocompass) will be stressed. As time permits, classroom instruction may include tides, tidal current effects, danger angles, and soundings.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: MSC 101

MSC 103-107 - Ocean Survey
These courses are conducted aboard ship for periods of up to two weeks. Credit in all five is required for graduation. Students will practice sampling and measuring techniques, and conduct observations during assigned watches. Should circumstances make it impossible to conduct the training aboard ship, training will be conducted aboard smallcraft or in the field and students will receive credit for a Marine Project course, which will still apply towards graduation.

MSC 103-104
Course Hours Per Week: 44-88 Hours.
Quarter Hours Credit 2.
Corequisite: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

MSC 105-106
Course Hours Per Week: 44-88 Hours.
Quarter Hours Credit 2.
Prerequisites: MSC 108, CHM 109 or approval of Marine Division Director.
Corequisite: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

MSC 107
Course Hours Per Week: 44-88 Hours.
Quarter Hours Credit 2.
Prerequisites: MSC 205, CHM 224, or approval of Marine Division Director.
Corequisites: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

MSC 108 - Oceanographic Instrumentation
Oceanographic Instrumentation will be introduced via lecture, demonstration, and student operation. Emphasis will be placed on the use, maintenance, calibration, and repair of general survey instruments.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: MSC 110 or approval of instructor

MSC 109 - Oceanography I
This course provides students with a general description of the oceans, their geography, geology, chemistry, and physics.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

MSC 110 - Oceanography II
This course provides students with a general description of air-sea interactions, wave, tide and ocean current phenomena, and coastal dynamics.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: MSC 109 or approval of instructor

MSC 111 - Net Construction Methods
This course introduces students to all types of fish-catching methods available to the commercial and scientific fisherman. Students will be instructed to the basic aspects of rigging, rope splicing, various practical knots, and the kinds of hardware used in biological sampling operations. The basics of biological net construction and repair also will be covered.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MSC 112 - Biological Net Construction I
This course offers students further instruction and practical experience in the mending and patching of various types of gear as well as additional experience in various aspects of marlinspike seamanship. Students will receive instruction on the various types of webbing available as well as construction techniques for various types of entrapment and entanglement gear. Ordering, sizing, and practical applications of all gear constructed will be explained.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MSC 113 - Biological Net Construction II
This course offers students further instruction in the design and construction of some of the more complex sampling gear, including biological seines, trawls, and cast nets. Taper cuts and sewing techniques will be introduced as well as computer-assisted design of various equipment. Practical applications of all gear constructed will be explained.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: MSC 112

MSC 114 - Biological Sampling Methods
This course offers students further experience utilizing all the various skills and techniques taught in the prerequisite courses. This course will also include the proper care and maintenance of all equipment used, the proper recording of all biological data as well as theories and uses involved in the compilation of raw biological data.
Course Hours Per Week: Lab 4.
Quarter Hours Credit 2.
Prerequisite: MSC 113

MSC 117 - Practical Experience I
This course offers students an introduction to various measuring devices and their uses, various hand and hand power tools and their uses, as well as experience in the basic design, construction, and maintenance of marine related materials.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: None

MSC 118 - Practical Experience II
This course introduces students to various stationary power tools and their uses. Further experience will be gained with the use of hand and portable power tools, as well as the basic design, construction, and maintenance of marine-related equipment.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: MSC 117

MSC 119 - Practical Experience III
This course offers students practical experience in the photographic recording of data as it relates to past biological, chemical, and instrumentation studies.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: PHO 110

MSC 131 - Marine Biology
Marine and estuarine habitats and organisms will be examined in this course. An ecological approach to the study of organisms in the local marine communities will be taken.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

MSC 132 - Power Boat Operations and Seamanship
This course introduces students to the various aspects of safe, skillful, and seamanlike operation of power boats. Students will operate and practice docking small craft. It also introduces students to the various skills, duties, and nomenclature required of able-bodied seamen.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MSC 133 - Marine Invertebrate Zoology
Taxonomy and classification of marine invertebrate animals will be studied in this course. Preserved animals will be utilized for learning the taxonomic relationships between various marine invertebrates. Laboratory periods will be used to study some of the behavioral characteristics of selected animals.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

MSC 134 - Marine Animals of North Carolina
This is a lecture course introducing students to marine organisms in North Carolina. Marine plankton, jellyfish, seashells, starfish, fishes, birds, and whales will be briefly studied. Preserved specimens will be used when available. Films and slides will also be utilized.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: None

MSC 135 - Aquarium Systems
This is a laboratory oriented course emphasizing the proper techniques of setting up marine aquaria and maintaining healthy marine animals in a closed seawater system.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: None

MSC 141, 142, 143 - Marine Projects
Students will participate in a Marine Project that may or may not require training aboard a small craft, but will require participation in field work or tours related to knowledge gained in regular classes.
Course Hours Per Course: 33 Hours.
Quarter Hours Credit 1.
Corequisite: 12 credit hours minimum enrollment in other Marine Technology curriculum courses.

MSC 202 - Data Processing I
This course introduces students to the handling and processing of oceanographic data. Temperature, salinity, and depth data are used to demonstrate standard methods of recording and reducing oceanographic data.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MSC 205 - Data Processing II
This course is a continuation of MSC 202 and will emphasize computer application in the collection, handling, reduction, and display of oceanographic temperature, salinity, and depth data.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisites: CAS 106, MSC 202 or permission of instructor

MSC 206 - Estuarine Survey
A course in which emphasis is placed on field sampling and measurements, laboratory analysis, data reduction, and data representation. This course is designed to provide an opportunity for soon-to-be-graduating students to apply in a comprehensive, challenging, and significant manner what has been learned during the past seven quarters. A formal report will be required.
Course Hours Per Week: Class 2, Lab 4, M. Lab 3.
Quarter Hours Credit 5.
Prerequisites: CHM 109, CHM 224, MSC 108

MSC 213 - Marine Vertebrate Zoology
Identification, classification, and natural history of marine vertebrates are the studies in this course.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

MUS 150 - Survey of Music Literature
This course is designed to increase the student's knowledge and appreciation of music. A technical knowledge of music not required.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

MUS 151 - Music History
This trace of music from the Gregorian Chant to the present is designed to explain style development in relationship to historical influences. Historical moves in society are directly linked to the changes in music style.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

NUR 101 - Fundamentals of Nursing
Nursing 101 introduces the student to cognitive, psychomotor, and affective skills necessary to make sound nursing decisions and practice competently. Beginning knowledge of the nurses role as a member within the profession is addressed. The nursing process is introduced as a systematic method of managing nursing care. Psychosocial and physiological concepts basic to a humanistic and caring application of scientific principles are included.
Course Hours Per Week: Class 4, Lab 6.
Quarter Hours Credit 7.
Prerequisite: Acceptance into the CFCC ADN program
Co-requisites: BIO 121, PSY 105 (may have been taken at a prior time)

NUR 102 - Common Stressors in Medical Surgical Nursing
Nursing 102 utilizes the nursing process as a tool to assist students in acquiring knowledge essential in providing care to patients experiencing common health stressors. The nurses role as a member of the profession is stressed in accurate reporting and recording. The nursing management of safe, accurate medication administration is emphasized and physical assessment skills are introduced. The student is provided the opportunity for humanistic and caring application of scientific principles in acute and long-term clinical agencies.
Course Hours Per Week: Class 4, Lab 4, Clinical 10.
Quarter Hours Credit 9.3.
Prerequisites: BIO 121, NUR 101
Co-requisites: BIO 122 (may have been taken at a prior time)

NUR 103 - Medical-Surgical Nursing I
Nursing 103 emphasizes the nursing process as an organizing framework to provide nursing care for patients experiencing common and/or chronic health deviations. Students are provided opportunities in affiliating agencies to demonstrate understanding of accountable management, in prioritizing, and organizing nursing care for one patient. Opportunities for professional growth, continuous learning and self-development are provided.
Course Hours Per Week: Class 6, Clinical 10.
Quarter Hours Credit 9.3.
Prerequisites: NUR 102, BIO 122

NUR 104 - Maternal-Child Nursing
Nursing 104 is designed as a two part course which utilizes the nursing process to assist the student in the providing care for maternal, newborn, and pediatric patients. The student is expected to organize care and demonstrate accountable management of one or two patients through a collaborative process. Opportunities are provided for continued development as a member within the discipline of nursing. Clinical experiences are provided in acute and ambulatory care settings.
Course Hours Per Week: Class 7, Lab 2, Clinical 10.
Quarter Hours Credit 11.3.
Prerequisites - NUR 103, PSY 110, BIO 123, NUR 120 for the LPN student.

NUR 105 - Issues and Trends
Nursing 105 is designed to assist the student in examining the role of the Associate Degree Nurse as a member within the Discipline of Nursing. The course addresses nursing education and continuous learning, self-development, ethical standards, legalities, professional organizations, political and economic forces, and historical and current trends.
Course Hours Per Week: Class 2.
Quarter Hours Credit 2.
Prerequisite: None

NUR 120 - Nursing Transition
Nursing Transition provides an orientation to the conceptual framework of the Associate Degree Nursing Program. It is designed for the Licensed Practical Nurse entering the ADN program with advanced standing. The course emphasis is on concepts basic to nursing, common stressors in medical-surgical nursing, basic physical assessment skills, and pathophysiological processes with related nursing interventions for common problems in the respiratory, cardiovascular, integumentary, GI, and immune systems and diabetes mellitus. Clinical experience will focus on the utilization of the nursing process on medical-surgical floors in local hospitals.
Course Hours Per Week: Class 6, Lab 2, M. Lab 3.
Quarter Hours Credit 8.
Prerequisites: BIO 122, graduation from an approved practical nursing program.
This course must be repeated if completed more than one academic year prior to entering the program.

NUR 201 - Psychiatric Nursing
Nursing 201 utilizes the nursing process as a tool to assist the student to gain current knowledge in providing care to individuals experiencing alterations in social and psychological functioning. The student must coordinate patient care as the patients interact with their families, groups, and/or communities. Opportunities for professional growth, continuous learning, and self-development are incorporated into the course. Inpatient psychiatric facilities are the primary focus of clinical experiences.
Course Hours Per Week: Class 5, Clinical 10.
Quarter Hours Credit 8.3.
Prerequisite: PSY 105

NUR 202 - Patient Care Management
Patient Care Management addresses concepts of leadership and management necessary to provide and coordinate care for a group of patients. Principles of communication, delegation, conflict resolution, and roles and responsibilities of members of the health care team are discussed.
Course Hours Per Week: Class 1.
Quarter Hours Credit 1.
Prerequisite: None

NUR 203 - Medical-Surgical Nursing II
In Nursing 203 the nursing process is utilized as the basis for providing patient-centered care through a collaborative approach involving the patient, family, significant others, and the health care team. The role of manager of care is emphasized and students are provided opportunities to organize, prioritize, and delegate accountable care for groups of patients experiencing common alterations in health. Clinical experiences are on medical-surgical units of affiliating agencies.
Course Hours Per Week: Class 6, Clinical 15.
Quarter Hours Credit 11.
Prerequisites: NUR 201, NUR 202

NUR 204 - Medical-Surgical Nursing III
Nursing 204 utilizes the nursing process to guide the student in providing and managing care for adult patients experiencing more complex common health deviations. Clinical experiences are structured to facilitate the transition from the role of the student to the role of a practicing member within the discipline of nursing.
Course Hours Per Week: Class 6, Clinical 15.
Quarter Hours Credit 11.
Prerequisite: NUR 203

ORI 150 - College Survival Skills
This course is designed to introduce the student to the college environment, assist him/her in establishing educational objectives, and in developing a plan for meeting these objectives. Emphasis will be placed on goal setting, time management, study skills, notetaking, and test-taking strategies. Other topics may be included depending on the needs of the students.
Course Hours Per Week: Class 1.
Quarter Hours Credit 1.
Prerequisite: None

OSC 100 - Basic Keyboarding
This is an introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. A minimum speed requirement is 20 gross words a minute with 5 errors allowed.
Course Hours Per Week: M. Lab 3.
Quarter hours Credit 1.
Prerequisite: None

OSC 105 - Keyboarding
This course is an introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. The minimum speed requirement is 20 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

OSC 118 - Document Production
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Minimum speed requirement is 30 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: OSC 105 or equivalent

OSC 213 - Office Procedures
Dictaphones, typewriters, electronic calculators, copying machines, and similar modern office equipment are utilized by students to efficiently produce quality office documents such as letters, memos, payrolls, invoices, manuscripts, and statistical charts in a simulated office situation.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: OSC 118

OSC 217 - Speedwriting
An introduction to an alphabetic shorthand system in which sounds are represented by letters of the alphabet and common punctuation marks. Emphasis is placed on the theory of non-shorthand elements of dictation and transcription.
Course Hours Per Week: Class 3, Lab 4.
Quarter Hours Credit 5.
Prerequisite: None

OSC 220 - Administrative Office Technology Internship
This course is offered in the final year of the Administrative Office Technology curriculum and is designed to give the student practical on-site experience.
Course Hours Per Week: M. Lab 20 Co-op.
Quarter Hours Credit 2.
Prerequisite: Completion of first year of Administrative Technology curriculum.

OSC 222 - Word Processing I
This course introduces the student to word processing procedures and equipment. It is designed to familiarize students with the concept of word processing and the input and output equipment used to transform ideas and information into readable forms of communication.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisites: OSC 105, CAS 101

OSC 223 - Word Processing II
Emphasis on advanced document preparation techniques. Topic include all aspects of major reports and papers - indexing, tables of contents, and footnotes; document merging and assembly, including techniques for handling forms, labels, and envelopes; building and using macros; sorting tables and lists; learning to use the package as an integrated software tool for spreadsheet applications, database management, and graphics. Students will become familiar enough with the concepts of word processing to transfer these basic skills to other word processing software packages.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: OSC 222

OSC 240 - Comprehensive Machine Transcription I
Students develop skill typing mailable letter, memoranda, and manuscripts directly from records disks. Emphasis is placed on vocabulary development.
Course Hours Per Week: Class 3, Lab 4.
Quarter Hours Credit 5.
Prerequisite: OSC 105

PED 150 - Foundations of Physical Activity
A study of immediate and long term effects of physical activity and the establishment of individualized programs for acquiring and maintaining physical fitness.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

PHI 150 - Introduction to Philosophy
An introduction to basic philosophical concepts and issues with emphasis on major philosophers and perspectives.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

PHO 110 - Introduction to Photography
This course is an introductory course covering the basic skills required for black and white photography, the operation of the camera, the creation and content of a good photograph, processing film, making prints, and preparing photographs for display.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

PHO 150 - Introduction to Photography
This course is an introductory course covering the basic skills of black and white photography, the operation of the camera, the creation and content of a good photograph, processing film, making prints, and preparing photographs for display.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

PHY 100 - Introductory Physics
This is a fundamental course that forms a sufficient basic background for a student to progress into PHY 103, PHY 104, PHY 105, or PHY 106. The student will be introduced to the units used in measurement, and to the concepts of force, work, and power as they can be applied to linear motion. Emphasis is on the universal applicability of these concepts to other more specialized area of physics. This course enables students in certain technical curricula to take the more advanced physic courses with a single prerequisite course.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: It is recommended that MAT 121 be taken prior to enrolling in this course or to be taken concurrently with this course.

PHY 101 - Physics: Properties of Matter
This is an introductory course which describes some basic physical properties of matter in the solid, liquid, and gaseous states. Topics discussed are: units of measurement and unit conversions; density and hydrostatic pressure in liquids, surface tension; Hooke's law and the elasticity of solids and liquids; heat and temperature measurement; and the ideal gas law.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Corerequisite: MAT 121

PHY 102 - Physics: Work, Energy, and Power
This course is the second part of the introductory course and is designed to follow PHY 101. Topics discussed are velocity and acceleration of objects, Newton's laws of motion, vector calculations, work , energy, power, and rotary motion.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: PHY 101, MAT 121
Pre/Corequisite: MAT 122

PHY 103 - Physics: Electricity
This course is an introduction to the physical principles of electrical phenomena. Topics discussed include electrostatics, electric current flow and Ohm's law, magnetism and forces caused by electric currents, induced electric currents, alternating current devices, and simple electronic DC power supply circuits.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: MAT 122, PHY 100 or PHY 102

PHY 104 - Physics: Light and Sound
This course is an introduction to the description of optical and acoustic devices. Topics included are wave motion and resonance, sound measurements and human hearing, the Doppler effect, illumination and color, optical elements (lenses and mirrors), and some basic principles of physical optics.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: MAT 122, PHY 100 or PHY 102

PHY 105 - Physics: Heat and Fluids
This course is an introduction to heat energy and its effects on various materials. The course content is designed to provide the fundamental concepts necessary to describe heat transfer processes involving moving fluids. Topics included are pressure in liquids, laminar and turbulent flow of fluids, Bernoulli's principle, the ideal gas law, temperature and heat energy, and heat transfer via moving fluids.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: MAT 122, PHY 100 or PHY 102

PHY 106 - Applied Mechanics
This course is an introduction to statics. Some topics included are the equilibrium of two and three dimensional force systems, centroid and center of gravity, and the analysis of trusses and frames.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: MAT 123, PHY 100 or PHY 102

PHY 150 - College Physics I
A general college physics course designed to meet the needs of students working toward a bachelor's degree in Arts and Science. The course covers the principles and practical applications of Mechanics. Topics include: scalars and vectors, linear motion, Newton's laws, work, energy, power, momentum, torques, rotational dynamics and equilibrium. The student will develop basic skills of scientific experimentation including manipulation of apparatus and recording and analyzing data. Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Corequisite MAT 160 or MAT 122

PHY 151 - College Physics II
A continuation of College Physics I. The course covers the principles and applications of Heat, Sound, and Optics. Topics include thermal energy, temperature, heat transfer, gases, fluid statics, fluid dynamics, elastic properties of solids, waves, reflection and refraction, optical instruments and wave interference.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: PHY 150

PHY 152 - College Physics III
A continuation of PHY 150 and PHY 151. The course covers the principles and applications of Electricity and Magnetism. Topics include electric force, electric energy, electric current and Ohm's laws. DC circuits, capacitors, magnetic forces and fields, induced voltages and AC circuits. The course also covers modern physics.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: PHY 151

PHY 225 - Forensic Physics
This course is a survey of a variety of topics from technical physics which are useful in understanding phenomena experienced and equipment used in the criminal justice field. The course can be divided into three principal areas of study - ray optics and converging lenses, simple electric circuits using relays to achieve the AND and OR logic functions, linear motion and kinetic energy. Particular attention is given to the student's understanding of the physical principles of operation of devices such as cameras, telescopes, and alarm circuits.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: MAT 121

PME 101 - Marine Engines I
This is a course that introduces students to the basic construction of internal combustion engines of the reciprocating type. Basic maintenance and repair of related equipment including starters, water pumps, and generators will be covered. Outboard motors will be the primary type of engine studied in this course.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

PME 102 - Marine Engines II
This course is a continuation of PME 101. Theory of operation, breakdown and overhaul of small engines, water pumps, and accessories will be emphasized. Maintenance on all school inboard and outboard engines will be conducted as an integral part of the course.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: PME 101

POL 150 - American National Government
This course is designed to cover the origin, development, organization, functions, powers, policies, and programs of the federal government with emphasis on the three branches of government and how they interact with one another, with political parties, interest groups, and the electorate in political decision making.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

POL 250 - State and Local Government
This course is designed to analyze the relationship between the federal government and state and local governments. It covers the organization, functions, legal procedures, and political processes at state and local levels.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

PSY 102 - Introduction to Psychology
This is a course designed to cover the basic principles of psychology that will be of assistance to the student in developing greater self-understanding and in improving interpersonal relationships on both individual and job-related bases. The content of the course includes the following: basic terminology, methods of gathering psychological data, psychology as a science, current schools of thought, learning theory and memory, personality development, stress and adjustment, and abnormal behavior.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

PSY 150 - Introduction to Psychology
This course is designed to cover the basic principles of psychology with emphasis on terminology, psychological research methods, theoretical schools, learning theory, physiological bases of behavior, mental health and adjustment, motivation, perception, and personality theory.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

PSY 250 - Human Growth and Development
A survey course covering the entire life span with emphasis on the physical, psychological, cognitive, and social development of the individual.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: PSY 102 or PSY 105

RED 087 - Prescriptive Reading
Prescriptive Reading is concerned with diagnosing and remediating reading deficiencies on an individual basis. It focuses on improving vocabulary and reading skills, including reading rate plus literal and critical comprehension. The aim of the course is to prepare students to read college-level assignments efficiently.
Course Hours Per Week: Class 3, Lab 2. Institutional Hours Credit 4. (Does not apply toward graduation.)
Prerequisite: None

REL 103 - Introduction to Religion
This course covers religion as a field of study, major modes of religious expression, chief issues in religious thought and experience, the search for method since the Enlightenment, and contemporary developments.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

REL 250 - Religion in America
This course examines the development and process of religion in America from colonial times to the present, surveying Protestant, Catholic, and Jewish leaders, native American and black American traditions, religious reform and revivalism.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

RLS 103 - Fundamentals of Real Estate
This course consists of instruction in fundamental real estate principles and practices, including real estate law, financing, brokerage, closing, valuation, management, and taxation. Also included is instruction on residential building construction, land use, the real estate market and the North Carolina Real Estate License Law and Rules/Regulations of the North Carolina Real Estate Licensing Board.
Course Hours Per Week: Class 6.
Quarter Hours Credit 6.
Prerequisite: None

RLS 109 - Real Estate Math
This course consists of the practice and application of major aspects of real estate math.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: RLS 103 or an equivalent course approved by the North Carolina Real Estate Licensing Board or by instructor approval.

RLS 114 - Real Estate Law
This course consists of advanced level instruction in real property ownership and interests, transfer of title to real property, land use controls, real estate brokerage and the law of agency, real estate contracts, landlord and tenant law, mortgages/deeds of trust, property insurance, federal income taxation of real estate, the N.C. Real Estate License Law, Rules/Regulations of the N.C Real Estate Licensing Board, and the Licensing Board's "Trust Account Guidelines."
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: RLS 103 or an equivalent course approved by the North Carolina Real Estate Licensing Board

RLS 115 - Real Estate Finance
This course consists of advanced level instruction on the major aspects of financing real estate transactions, including sources of mortgage funds, the secondary mortgage market, financing instruments, types of mortgage loans, underwriting mortgage loans, consumer legislation affecting real estate financing, real property valuation, closing real estate sales transactions, and finance mathematics.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: RLS 103 or an equivalent course approved by the North Carolina Real Estate Licensing Board

RLS 116 - Real Estate Brokerage Operations
This course consists of basic instruction in the various aspects of real estate brokerage operations, including establishing a brokerage firm, management concepts and practices, personnel and training, marketing operations, records and bookkeeping systems (including trust account bookkeeping), and financial operations.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: RLS 103 or an equivalent course approved by the North Carolina Real Estate Licensing Board

SAF 120 - First Aid
This course will introduce students to basic first aid and enable them to successfully cope with the everyday injuries that might occur. Course coverage will range from minor cuts and burns to artificial respiration and the treatment of shock.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

SAF 121 - First Aid and Marine Safety
This course introduces students to first aid procedures which will enable them to successfully cope with the everyday injuries and accidents that may occur in a marine environment. Prevention of these accidents will be discussed and stressed. Students will be taught safety rules utilized on board a vessels as well as at shore stations.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

SOC 102 - Principles of Sociology
This is an introductory course designed to cover the basic principles of sociology and to provide an understanding of culture, social structure, socialization, collective behavior, deviance and social control, stratification, and social mobility. Emphasis is placed on the scientific study of group behavior and the effect of social life on personality and behavioral development.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

SOC 103 - American Institutions
This course is a study of the effect of American social, economic, political, religious, and educational institutions upon the individual's role as a citizen and a worker. The course dwells upon current local, national, and global problems in the light of our political and economic heritage.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

SOC 150 - Introduction to Sociology
This course is designed to cover the basic principles of sociology and to provide an understanding of sociological concepts, methodology, culture, social structure and stratification, collective behavior, deviance, social mobility, demographics, and contemporary social institutions.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

SOC 250 - Sociology of the Family
A comprehensive study of marriage and a changing family structure, relationships, roles, and functions. The course may include the following topics: bases for mate selection, courtship patterns, the family as an institution, adjustment, parenting, communication, and conflict resolution.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: SOC 102 or SOC 150

SOC 260 - Sociology of Deviant Behavior
This course focuses on various sociological theories regarding deviant behavior. Areas covered may include substance abuse, sexual deviance, violence, property crimes, and mental disorders.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: SOC 102 or SOC 150

SOC 265 - Sociology of Juvenile Delinquency
This course is designed to analyze the causes, treatment, and prevention of delinquency. Emphasis is placed on the sociological and psychological parameters affecting adolescent development which may contribute to delinquency.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: SOC 102 or SOC 105

SOC 270 - Modern Social Problems
A critical analysis of current major social issues and problems in American society. Systemic and institutional problems related to race, ethnics, crime, and social disorganization may be covered with emphasis on strategies for improvement.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

SPH 150 - Introduction to Speech
This course purposes to provide students with an introductory perspective of an experience in speech communication. Incorporating both the theories of speech and the application of those theories through skill development exercises, the course focuses on four major categories of information: elements of communication, inter-personal communication, small group interaction, and public speaking.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

SWK 150 - Introduction to Social Work
A survey course covering the historical development, philosophy, organizational structure, and methods in professional social work in the United States.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

WLD 101 - Basic Welding
This is an overview of equipment and procedures used by the welding industry. Instruction will be given in methods, techniques and skills. The objective is to furnish students with a working knowledge of the welding field, and demonstrate how it is related to manufacturing.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

WLD 134 - Marine Welding
There will be demonstrations by the instructor and practice by students in the welding shop. Students should become proficient in welding stringer beads from the flat position to the vertical position in the time allotted during the quarter. Safe and correct methods of assembling and operating the welding equipment, the correct use of flame cutting and arc cutting equipment applicable to mechanical repair work will be demonstrated.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

VOCATIONAL CURRICULA

In North Carolina, as well as throughout the nation, the demand for skilled tradesmen is at an all-time high. Hardly a day passes that the College does not have at least one call from industry looking for prospective employees. Graduates of the trade programs sometimes have as many as four or five offers of employment upon graduation.

Students in the skilled trade programs are trained in shops similar to those of private industries. The shops contain testing and measuring instruments, tools, and equipment of the same size and types as found in private firms. The facilities make possible practical instruction which is essential to the preparation of skilled workers needed by today's modern industries. Students in these trade programs spend twenty-five to thirty hours per week in school; this time is divided between classroom studies and practical shop work.

Skilled craftsmanship in the occupation, appropriate educational background and leadership ability are the bases for instruction selection in these trade courses.

A diploma is awarded to those students who satisfactorily complete the full-time trade program. To be eligible for the diploma, students must maintain satisfactory grades in all shop, class work, and maintain an overall grade point average of 2.00.

CAPE FEAR COMMUNITY COLLEGE
AUTHORIZED PROGRAMS

One year (12 months) training courses are offered in the following skilled trades:

		Code	Day	Evening	Diploma	Advanced Diploma
1	Air Conditioning, Heating & Refrigeration	V024	*		*	
2	Automotive Mechanics	V003	*		*	
3	Boatbuilding	V115	*		*	
4	Child Care Worker	V067		*	*	
5	Dental Assisting	V011	*		*	
6	Industrial Electricity	V124	*		*	
7	Industrial Mechanics	V028	*		*	
8	Light Construction	V029	*		*	
9	Machinist	V032	*	*	*	*
10	Marine and Diesel Mechanics	V034	*		*	
11	Phlebotomy (Certificate Program)	V168		*		
12	Practical Nursing	V038	*		*	
13	Welding	V050	*	*	*	

See pages 81 to 100 for course descriptions.

Air Conditioning, Heating and Refrigeration

The air conditioning, heating and refrigeration curriculum is designed to teach knowledge and skills necessary for servicing and installing residential and light commercial climate control equipment. Instruction will include heating and cooling theory, applied electricity and electronics, and the operating principles for a wide-range of heating and cooling equipment. The diploma program will emphasize start-up and service skills for oil, gas and electric furnaces, air-cooled air conditioning and air-to-air heat pumps.

FIRST QUARTER			Credit Hours
AHR	1113	Servicing Heating Equipment	6
AHR	1115	Fundamentals of Heating	3
ELC	1150	Basic Electricity	3
MAT	1101	Trade Mathematics	5
WLD	1104	Basic Gas Welding	2
			19

SECOND QUARTER			
AHR	1121	Principles of Refrigeration	6
AHR	1129	Applied Electricity for Heating, Ventilation & Air Conditioning Systems	3
BPR	1104	Blueprint Reading	3
ELC	1151	Applied Wiring Diagrams	3
ENG	1101	Communication Skills	2
			17

THIRD QUARTER			
AHR	1123	Fundamentals of Air Conditioning	5
AHR	1132	Air Conditioning Servicing	7
AHR	1135	Applied Electronics for Heating, Ventilation & Air Conditioning Systems	3
PHY	1101	Applied Science	4
			19

FOURTH QUARTER			
AHR	1138	All-Weather Systems: Conventional	6
AHR	1139	All-Weather Systems: Heat Pumps	7
PSY	1101	Human Relations	3
			16

MINI COURSES — When mini courses AHR 1113-A and AHR 1113-B are completed, full credit will be given for AHR 1113.

AHR	1113-A	Service Heating Equipment	4
AHR	1113-B	Service Heating Equipment	2

Automotive Mechanics

The Automotive Mechanics curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work; technical understanding of the operating principles involved in the modern automobile are taught through class assignments, discussions and shop practices.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In some communities and rural areas they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test equipment to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

FIRST QUARTER			Credit Hours
AUT	1101	Internal Combustion Engines	8
AUT	1120	Automotive Analysis	3
ENG	1101	Communication Skills	2
MAT	1101	Trade Mathematics	5
			18

SECOND QUARTER			
AUT	1102	Engine Electrical and Fuel Systems	10
AUT	1126	Schematics and Diagrams: Automotive	3
ENG	1102	Communication Skills	2
PHY	1101	Applied Science	4
			19

THIRD QUARTER			
AUT	1100	Automotive Air Conditioning	2
AUT	1121	Braking Systems	4
AUT	1123	Automotive Chassis and Suspension Systems	6
AUT	1129	Emission Systems: Automotive	3
PSY	1101	Human Relations	3
			18

FOURTH QUARTER			
AUT	1124	Automotive Power-Train Systems	6
AUT	1125	Automotive Servicing	6
BUS	1103	Small Business Operations	3
WLD	1102	Basic Welding	1
			16

MINI COURSES — When mini courses AUT 1102-A, AUT 1102-B, AUT 1102-C, and AUT 1102-D are completed, full credit will be given for AUT 1102.

AUT	1102-A	Engine Electrical and Fuel Systems	2
AUT	1102-B	Engine Electrical and Fuel Systems	2
AUT	1102-C	Engine Electrical and Fuel Systems	2
AUT	1102-D	Engine Electrical and Fuel Systems	4

Boatbuilding

The Boatbuilding curriculum prepares individuals for employment in the boat manufacturing and repair industries. Today's boatbuilder is a skilled craftsman who can create complex shapes out of fiberglass, wood, and an array of other Space Age materials. The boatbuilder must be able to select the proper tools and materials required for a particular job and to plan its efficient execution so that the work can be finished in accordance with blueprint specifications.

Graduates may find employment with a yacht manufacturer or other company that needs fine wooden furniture and mouldings fabricated and installed. Opportunities also exist in the fiberglass industry. Boat hulls, some automobile bodies, shower stalls, and other items are made from fiberglass molds. Boatbuilding graduates know how to build these molds to a mirror finish from a set of blueprints. Graduates may also find employment with a boat yard that maintains, repairs, and renovates boats.

FIRST QUARTER			Credit Hours
BTB	1110	Boatbuilding I	9
DFT	1127	Marine Drafting	5
MAT	1101	Trade Mathematics	5
			19
SECOND QUARTER			
BTB	1111	Boatbuilding II	8
ELC	1101	Practical Marine Electricity	3
ENG	1101	Communication Skills	2
WWK	1110	Modern Yacht Joiner Practices I	5
			18
THIRD QUARTER			
BTB	1112	Boatbuilding III	7
PHY	1101	Applied Science	4
WWK	1111	Modern Yacht Joiner Practices II	4
			15
FOURTH QUARTER			
BTB	1114	Yacht Repair and Renovation	7
FBG	1101	Fiberglass Mold Making	7
MSC	1120	Marine Systems	2
			16

Child Care Worker

The Child Care Worker curriculum prepares individuals to work as assistants with early childhood specialists in day-care centers, nursery schools, kindergartens, child development centers, hospitals, institutions, camps and recreation centers. This curriculum provides course work to meet the requirements for entry level employment and upgrading or retraining of staff in child care facilities.

Instruction includes theory and application in child care, growth and development of children, behavior patterns of children, health practices and how to deal with the emotional and physical problems of children.

As of January 1, 1987 - In order to be employable in a day-care center in North Carolina, you must be a high school graduate or have obtained your GED certificate.

FIRST QUARTER			Credit Hours
EDU	1101	Child Growth and Development (Infant-Toddler 0-24 months)	3
EDU	1102	Child Growth and Development (Preschool 2-5)	3
EDU	1113	Early Childhood Curriculum Planning: Social Studies and Special Holidays	3
EDU	1130	Introduction to Preschool Education	3
ENG	1101	Communication Skills	2
HEA	1119	First Aid	3
			17
SECOND QUARTER			
EDU	1105	Health, Safety, and Nutrition of the Young Child	3
EDU	1116	Early Childhood Curriculum Planning: Cognitive	3
EDU	1122	Guiding Children's Behavior	3
EDU	1148	Infant-Toddler Care	3
ENG	1102	Communication Skills	2
SOC	1112	Families in American Culture	3
			17
THIRD QUARTER			
EDU	1006	Language Arts in Early Childhood	3
EDU	1009	Art in the Early Childhood Program	2
EDU	1106	Nutrition/Cooking Experience	3
EDU	1125	Working with Parents	3
EDU	1138	Program Planning for Infants and Toddlers	3
EDU	1203	Exceptional Children	3
			17
FOURTH QUARTER			
EDU	1022	Mathematics and Science for Young Children	3
EDU	1103	Music and Integrated Activities	2
EDU	1111	Communicating Effectively with Young Children	3
EDU	1115	Early Childhood Curriculum Planning: Construction, Physical, and Blocks	3
EDU	1118	Operation of Child Care Programs	3
PSY	1101	Human Relations	3
			17

Dental Assisting

The Dental Assisting curriculum prepares graduates to assist the dentist in providing treatment services. Functions performed by the dental assistant include dental health education, preparing dental materials, preparing the patient for treatment, taking dental X-rays, maintaining dental supplies and equipment, assisting the dentist, providing selected services for the patient, making appointments, maintaining patient records and other office management procedures. Graduates may be employed by dental office, dental clinics, public health clinics, federal service clinics, dental schools, state health departments, dental manufacturers and insurance companies.

Graduates are eligible to take the examination given by the Dental Assisting National Board, Incorporated to become a Certified Dental Assistant.

Individuals desiring a career in dental assisting should, if possible, take biology, mathematics and typing courses prior to entering the program.

FIRST QUARTER			Credit Hours
DEN	1001	Introduction to Dental Assisting	3
DEN	1002	Dental Materials I	2
DEN	1003	Dental Sciences	2
DEN	1004	Dental Anatomy	3
DEN	1005	Preclinical Science I	4
			14
SECOND QUARTER			
DEN	1006	Dental Materials II	3
DEN	1007	Preclinical Science II	4
DEN	1008	Dental Office Management I	4
DEN	1009	Dental Radiology	5
PSY	1102	Growth and Development	3
			19
THIRD QUARTER			
DEN	1010	Clinical Procedures I	7
DEN	1011	Dental Office Management II	3
DEN	1012	Dental Office Practice I	5
DEN	1013	Basic CPR and Dental Office Emergencies	1
ENG	101	Grammar	3
			19
FOURTH QUARTER			
DEN	1014	Clinical Procedures II	8
DEN	1015	Dental Office Practice II	8
DEN	1016	Oral Health and Nutrition	3
ENG	102	Composition	3
			22

Industrial Electricity

The Industrial Electricity program is designed to prepare students for the installation, repair, and maintenance of electrical equipment. The emphasis is on motors and related control systems, but students who take the basic courses will have sufficient knowledge and skill to work as helpers for electricians or repairmen in house wiring, small appliance repair, industrial maintenance, linemen, and related jobs.

FIRST QUARTER			Credit Hours
ELC	1104	Basic Electricity I	8
ELN	1106	Instrument Familiarization	5
ENG	1101	Communication Skills	2
MAT	1101	Trade Mathematics	5
			20
SECOND QUARTER			
ELC	1105	Basic Electricity II	8
ELC	1120	Electrical Calculations	5
ELM	1111	Electro-Mechanical Relays and Symbols	5
ENG	1102	Communication Skills	2
			20
THIRD QUARTER			
BPR	1104	Blueprint Reading	3
ELC	1115	AC and DC Machinery	7
ELC	1116	Motor Control	5
PSY	1101	Human Relations	3
			18
FOURTH QUARTER			
BPR	1109	Blueprint Reading	3
ELC	1125	Industrial Wiring Practices	6
ELN	1130	Solid State Devices, Circuits, and Symbols	7
WLD	1102	Basic Welding	1
			17

MINI COURSES — When mini courses ELC 1104-A and ELC 1104-B are completed, full credit will be given for ELC 1104

ELC	1104-A	Basic Electricity I	4
ELC	1104-B	Basic Electricity I	4

Industrial Mechanics

The curriculum in Industrial Mechanics prepares students with a broad background in industrial skills required by industry for its mechanics. The individual develops skills in the repair and maintenance of industrial equipment, basic welding and cutting, refrigeration and air conditioning, direct and alternating current, machines and their controls, and related courses.

FIRST QUARTER			Credit Hours
AHR	1103	Basic Heating and Air Conditioning	2
BPR	1104	Blueprint Reading	3
MAT	1101	Trade Mathematics	5
MEC	1127	Industrial Mechanics I	6
WLD	1106	Welding and Burning I	2
			18

SECOND QUARTER			
BPR	1105	Blueprint Reading	1
ENG	1101	Communication Skills	2
MAT	1102	Trade Mathematics	5
MEC	1128	Industrial Mechanics II	7
WLD	1107	Welding and Burning II	2
			17

THIRD QUARTER			
BPR	1108	Blueprint Reading	3
ELC	1100	Basic Electricity	2
MEC	1113	Shop Processes I	2
HYD	1121	Industrial Hydraulics I	2
MEC	1129	Industrial Mechanics III	6
PSY	1101	Human Relations	3
			18

FOURTH QUARTER			
ELC	1117	Industrial AC Motors and Controls	2
MEC	1114	Shop Processes II	2
HYD	1122	Industrial Hydraulics II	2
MEC	1130	Industrial Mechanics IV	8
PHY	1101	Applied Science	4
			18

MINI COURSES — When mini courses MEC 1127-A and MEC 1127-B are completed, full credit will be given for MEC 1127.

MEC	1127-A	Industiral Mechanics I	3
MEC	1127-B	Industrial Mechanics I	3

Light Construction

The Light Construction curriculum prepares individuals for employment in the building trades industry. Instruction is provided in carpentry, masonry, electrical wiring, and plumbing. Students study applied mathematics, blueprint reading and sketching, safety, and other related subjects. They learn the methods used in laying out a small structure, mixing and pouring cement, rough framing, laying brick and block, roofing, and exterior finishing.

Graduates may find employment with home builders or with commercial building contractors. They may enter the building trades as apprentices or work as building maintenance mechanics in small industries or public buildings including schools, hospitals, and apartment houses. After sufficient experience in the trade, some workers may establish their own business.

FIRST QUARTER			Credit Hours
BPR	1110	Building Trades Blueprint Reading and Sketching	5
CAR	1101	Carpentry (Rough)	10
ENG	1101	Communication Skills	2
MAT	1101	Trade Mathematics	5
			22

SECOND QUARTER			
BPR	1113	Blueprint Reading: Building Trades	5
CAR	1102	Carpentry (Framing)	10
ENG	1102	Communication Skills	2
PSY	1101	Human Relations	3
			20

THIRD QUARTER			
CAR	1103	Carpentry (Finishing)	11
PLU	1101	Basic Plumbing	3
			14

FOURTH QUARTER			
BPR	1135	Blueprints and Field Coordination	3
ELC	1109	Electrical Wiring	3
MAS	1101	Masonry	10
			16

MINI COURSES — When mini courses CAR 1101-A, CAR 1101-B, CAR 1101-C, and CAR 1101-D are completed, full credit will be given for CAR 1101.

CAR	1101-A	Carpentry (Rough)	3
CAR	1101-B	Carpentry (Rough)	3
CAR	1101-C	Carpentry (Rough)	2
CAR	1101-D	Carpentry (Rough)	2

Machinist

The Machinist curriculum gives individuals the opportunity to acquire basic skills and related technical information necessary to gain employment in the metalworking industries. The machinist is a skilled metalworker who shapes metal by using machine tools and hand tools. Machinists must be able to set up and operate the machine tools found in a modern shop. Computer Numerical Control (CNC) may be integrated into various phases of the curriculum or as specialized courses.

The machinist is able to select the proper tools and materials required for each job and to plan the cutting and finishing operations in their proper order so that the work can be finished according to blueprint or written specifications. The machinist makes computations relating to dimensions of work, tooling, feeds and speeds of machining. Precision measuring instruments are used to measure the accuracy of work. The machinist also must know the characteristics of metals so that annealing and hardening of tools and metal parts can be accomplished in the process of turning a block of metal into an intricate precise part.

ADVANCED DIPLOMA
Students who continue through the advanced diploma level of the Machinist curriculum will be able to refine basic machining skills and gain more experience in CNC machining and other technologies. CFCC is an authorized training center for Smartcam computer aided manufacturing software.

ADVANCED MACHINIST PREREQUISITE:
A student entering the Advanced Machinist stage must have successfully completed all the course work or the equivalent of the first four quarters.

FIRST QUARTER			Credit Hours
BPR	1104	Blueprint Reading	3
ENG	1101	Communication Skills	2
MAT	1101	Trade Mathematics	5
MEC	1101	Machine Shop Theory and Practice	8
			18

SECOND QUARTER			
BPR	1105	Blueprint Reading	1
MAT	1102	Trade Mathematics	5
MEC	1102	Machine Shop Theory and Practice	8
WLD	1101	Basic Welding	2
			16

THIRD QUARTER			
BPR	1106	Blueprint Reading	1
MAT	1122	Machinist Mathematics I	5
MEC	1103	Machine Shop Theory and Practice	8
MEC	1109	Computer Controlled Machine Tools I	3
			17

FOURTH QUARTER			
MAT	1123	Machinist Mathematics II	5
MEC	1104	Machine Shop Theory and Practice	8
MEC	1110	Computer Controlled Machine Tools II	3
PHY	1101	Applied Science	4
			20

Advanced Machinist

FIFTH QUARTER			
DFT	1501	Computer Aided Drafting and Design	4
CAS	1510	Introduction to Microcomputers	5
MEC	1512	Turning Center Programming and Operation	4
			13

SIXTH QUARTER			
MEC	1514	Computer Aided Manufacturing I	4
MEC	1518	Computer Numerical Control (CNC) Milling Programming and Operation	4
MEC	1520	Jigs and Fixtures I	5
			13

SEVENTH QUARTER			
MAT	1500	Math for Manufacturing	5
MEC	1515	Computer Aided Manufacturing II	4
MEC	1521	Jigs and Fixtures II	4
			13

MINI COURSES — When mini courses MEC 1101-A, MEC 1101-B, and MEC 1101-C are completed, full credit will be given for MEC 1101.

MEC	1101-A	Machine Shop Theory and Practice	2
MEC	1101-B	Machine Shop Theory and Practice	3
MEC	1101-C	Machine Shop Theory and Practice	3

Marine and Diesel Mechanics

The Marine and Diesel Mechanics curriculum provides training for individuals interested in becoming mechanics to service and maintain the propulsion system for boats and various type of marine equipment. Manual skills in servicing marine equipment are developed in practical shop work. A thorough understanding of the operating principles of this equipment is provided through classroom instruction, laboratory experiments, group discussions, and shop practices.

Marine engine mechanics maintain and repair mechanical, electrical, hydraulic, and pneumatic equipment used on boats and in industrial applications. Mechanics inspect and test equipment to determine the causes of faulty operations; repair or replace defective parts to restore the machine or unit to proper operating condition; and use shop manuals, manufacturers' maintenance manuals, and other publications for technical information.

FIRST QUARTER			Credit Hours
DIE	1100	Introduction to Gas and Diesel Engines	8
ENG	1101	Communication Skills	2
MAT	1101	Trade Mathematics	5
PHY	1101	Applied Science	4
			19
SECOND QUARTER			
BPR	1131	Schematics and Diagrams: Marine and Diesel	3
DIE	1101	Marine and Diesel Engine Theory and Practice I	6
DIE	1104	Marine and Diesel Power-Train Systems I	2
DIE	1108	Gas and Diesel Fuel Systems I	3
ELC	1111	Direct and Alternating Electricity	3
ENG	1102	Communication Skills	2
			19
THIRD QUARTER			
DIE	1102	Marine and Diesel Engine Theory and Practice II	7
DIE	1105	Marine and Diesel Power-Train Systems II	2
DIE	1109	Gas and Diesel Fuel Systems II	3
PSY	1101	Human Relations	3
WLD	1101	Basic Welding	2
			17
FOURTH QUARTER			
DIE	1103	Marine and Diesel Engine Theory and Practice III	8
DIE	1110	Gas and Diesel Fuel Systems III	3
HYD	1136	Fundamentals of Hydraulics	5
			16

MINI COURSES — When mini courses DIE 1101-A, DIE 1101-B, DIE 1101-C, and DIE 1101-D are completed, full credit will be given for DIE 1101.

DIE	1101-A	Marine and Diesel Engine Theory/Practice I	2
DIE	1101-B	Marine and Diesel Engine Theory/Practice I	2
DIE	1101-C	Marine and Diesel Engine Theory/Practice I	1
DIE	1101-D	Marine and Diesel Engine Theory/Practice I	1

Phlebotomy

A Phlebotomy Technician curriculum prepares the graduate to draw blood specimens from patients for the purpose of testing and analyzing blood. The job involves duties related to the preparation and maintenance of equipment used in obtaining blood specimen; the use of appropriate communication skills when working with patients; the selection of venipuncture sites; the care of blood specimen; and the entry of the testing process into the computer, as well as clerical duties associated with record keeping of the blood tests.

			Credit Hours
BIO	1121	Anatomy and Physiology	5
BUS	1183	Terminology and Vocabulary	3
PBT	1101	Introduction to Health Care Team	1
PBT	1102	Blood Collection Process	2
PBT	1103	Safety, Quality, and Liability	1
PBT	1104	Phlebotomy Clinical Experience	4
			16

Practical Nursing

The Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse. The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina Nursing Practice Act , 1981: participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens; recording and reporting the results of the nursing assessment; participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by State law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by state law to provide such supervision; reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolina, or dentist; and reporting and recording the nursing care rendered and the client's response to that care.

Licensed practical nurses may be employed in hospitals, nursing homes, clinics, doctors' offices, industry, and public health agencies.

Individuals desiring a career in practical nursing should be encouraged to take math and science courses in high school.

FIRST QUARTER			Credit Hours
BIO	1003	Introduction to Human Body	5
NUR	101P	Fundamentals of Nursing	9
PSY	150	Introduction to Psychology	5
			19
SECOND QUARTER			
NUR	1003	Medical-Surgical Nursing I	11
PHM	1002	Pharmacology	4
PSY	250	Human Growth and Development	5
			20
THIRD QUARTER			
ENG	151	English Composition I	5
NUR	1009	Maternal-Child Health Nursing	15
			20
FOURTH QUARTER			
NUR	105P	Issues and Trends	3
NUR	1005	Medical-Surgical Nursing II	18
			21

NOTE: Nursing courses with a clinical component may be switched from one quarter to another according to the availability of clinical space.

Welding

The Welding curriculum gives students sound understanding of the principles, methods, techniques, and skills essential for successful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure, to form a permanent bond between intersecting metals.

Welding offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production shops, job shops, and many others.

FIRST QUARTER			Credit Hours
BPR	1112	Blueprint Reading: Welding	2
MAT	1101	Trade Mathematics	5
WLD	1119	Basic Arc Welding and Oxy-Fuel Cutting	10
			17
SECOND QUARTER			
BPR	1117	Blueprint Reading: Welding	1
ENG	1101	Communication Skills	2
PHY	1101	Applied Science	4
WLD	1127	Advanced Arc Welding	10
			17
THIRD QUARTER			
BPR	1120	Blueprint Reading of Pipe Drawings and Pipe Sketchings	1
MEC	1113	Shop Processes I	2
PHY	1102	Applied Science	4
WLD	1122	Commercial and Industrial Practices	3
WLD	1123	Inert Gas Welding (Tig, Mig, and Plasma)	9
			19
FOURTH QUARTER			
ENG	1102	Communication Skills	2
MEC	1114	Shop Processes II	2
PSY	1101	Human Relations	3
WLD	1124	Pipe Welding	6
WLD	1125	Certification Practices	4
			17

MINI COURSES — When mini courses WLD 1119-A, WLD 1119-B, WLD 1119-C, and WLD 1119-C are completed, full credit will be given for WLD 1119.

WLD 1119-A	Basic Arc Welding and Oxy-Fuel Cutting	2
WLD 1119-B	Basic Arc Welding and Oxy-Fuel Cutting	2
WLD 1119-C	Basic Arc Welding and Oxy-Fuel Cutting	3
WLD 1119-D	Basic Arc Welding and Oxy-Fuel Cutting	3

VOCATIONAL COURSE DESCRIPTIONS

AHR 1103 - Basic Heating and Air Conditioning
This is a basic course in heating and air conditioning to acquaint the industrial mechanic with principles, theory, and working knowledge of this of equipment.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

AHR 1113 - Servicing Heating Equipment
An introduction to the servicing and repair procedures for electric, gas, and oil warm air heating systems. Emphasis is placed on students' hands-on practice in servicing, the analysis of operating malfunctions, and the repair of system components. Students will learn systematic procedures for diagnosing and repairing mechanical and electrical malfunctions.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Corequisites: AHR 1115, ELC 1150

AHR 1113-A - Servicing Heating Equipment
An introduction to the servicing and repair procedures for electric, gas, and oil warm air heating systems. Emphasis is placed on students' hands-on practice in servicing.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: AHR 1115, ELC 1150

AHR 1113-B - Servicing Heating Equipment
A continuation of Part A with emphasis on the analysis of operating malfunctions, and the repair of system components. Students will learn systematic procedures for diagnosing and repairing mechanical and electrical malfunctions.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: AHR 1113-A

AHR 1115 - Fundamentals of Heating
An introduction to the fundamentals of warm air heat, including oil, gas, and electric forced air systems. Emphasis is placed upon terminology, operating principles, theory, components and materials utilized in installation, and servicing.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

AHR 1121 - Principles of Refrigeration
This course is an introduction to the principles of refrigeration terminology, the use and care of tools and equipment, and the identification and the function of the component parts of a system. Other topics to be included will be the basic laws of refrigeration; characteristics and comparison of the various refrigerants; the use and construction of valves, fittings, and basic controls. Practical work includes tube bending, flaring and soldering. Standard procedures and safety measures are stressed in the use of special refrigeration service equipment and the handling of refrigerants.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: WLD 1101

AHR 1123 - Fundamentals of Air Conditioning
Emphasis is placed on the installation, maintenance, and servicing of equipment used in the cleaning, changing, humidification and temperature control of air in an air-conditioned space. Installation of various ducts and lines needed to connect various components is made.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisites: AHR 1121, WLD 1101

AHR 1129 - Applied Electricity for Heating, Ventilation and Air Conditioning Systems
This course will cover the use of test instruments and equipment used in servicing electrical apparatus installation for air-conditioning and heating systems. Emphasis is placed on electrical principals and procedures for troubleshooting the various electrical devices used in air-conditioning and heating equipment. Student will learn how to use test instruments to analyze performance and troubleshoot switches, electrical heating devices, and wiring.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: ELC 1150
Corequisite: ELC 1151

AHR 1132 - Air-Conditioning Servicing
Installation, routine servicing, problem diagnosis, and repair air-cooled air conditioning systems. Emphasis is placed on the correct methods for locating, assembling, wiring, connecting to duct systems, charging, and system start-up and performance checks. Additional emphasis is placed on systematic problem diagnosis and repair procedures for refrigeration, electrical, and control system malfunctions. Students will learn how to properly install, perform routine service maintenance on, evaluate the cooling performance of, and apply systematic problem diagnosis and repair procedures to room cooling units and split and packaged systems.
Course Hours Per Week: Class 3, M. Lab 12.
Quarter Hours Credit 7.
Prerequisites: AHR 1129, AHR 1121, WLD 1101
Corequisite: AHR 1123

AHR 1135 - Applied Electronics for Heating, Ventilation and Air Conditioning Systems
Common electronic control components utilized in HVAC systems. Emphasis is placed upon identifying different electronic components and their functions in HVAC system and motor drive control circuits. Students will learn how to identify these components, describe their functions in control circuitry, and to use test instruments to measure electronic circuit values and to identify malfunctions.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisites: ELC 1150, AHR 1129, ELC 1151

AHR 1138 - All-Weather Systems: Conventional
Principles of combination heating and cooling systems including gas-electric, all electric, oil-electric, and other combination systems. Emphasis is placed on proper safety and operational controls, selection and assembly of components, and installation of a complete all weather system. Students will learn how to construct, test, evaluate the performance of, and adjust all-weather conventional systems. In addition, students will learn how to solve service problems and to modify and/or repair an improperly installed system.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisites: AHR 1115, AHR 1113, AHR 1123, AHR 1132, AHR 1129

AHR 1139 - All-Weather Systems: Heat Pumps
Principles of installation, service, and repairing of air-to-air heat pumps. Emphasis is placed on the different refrigeration cycles, selections of the components of a complete system, proper application and installation practices, and service procedures for air-to-air heat pump systems. Students will learn how to properly size and install a complete system, perform routine service procedures, analyze performance, and to apply systematic problem diagnosis and repair procedures.
Course Hours Per Week: Class 4, M. Lab 9.
Quarter Hours Credit 7.
Prerequisites: AHR 1113, AHR 1132, AHR 1121

AUT 1100 - Automotive Air Conditioning
This course is a general introduction to the principles of refrigeration; study of the assembly of components and connections necessary in the mechanisms; and the methods of refrigerants in charging the system.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

AUT 1101 - Internal Combustion Engines
This course promotes the development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. It includes a study of the construction and operation of components of internal combustion engines, as well as the testing of engine performance, servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems, proper lubrication, methods of testing, and diagnosing and repairing.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: None

AUT 1102 - Engine Electrical and Fuel Systems
A thorough study of the electrical and fuel systems of the automobile is made, including battery cranking mechanism, ignition, accessories and wiring, fuel pumps, carburetors, fuel injectors, and computer systems. Types of fuel systems, special tools, and testing equipment for the fuel and electrical system are also covered.
Course Hours Per Week: Class 5, M. Lab 15.
Quarter Hours Credit 10.
Prerequisite: None

AUT 1102-A - Engine Electrical and Fuel Systems
This course is a study of the automotive electric system and wiring system to include computer systems, alternators and automotive accessory systems. Students learn how to troubleshoot and repair these systems using special tools and testing equipment designed especially for automotive electrical diagnosis and repairs.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

AUT 1102-B - Engine Electrical and Fuel Systems
This course is a study of the automotive cranking system to include starters, starter solenoids, ignition switch, drive mechanism, the neutral safety switch, and wiring which connects the components.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

AUT 1102-C - Engine Electrical and Fuel Systems
This course is a study of the automotive battery and how it supplies current to operate the starting motor and the ignition system when the engine is being started and how the battery uses chemicals to produce electricity (D.C. electricity).
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

AUT 1102-D - Engine Electrical and Fuel Systems
This course is a study of the automotive fuel systems, fuel storage, and supply systems; topics include carburetor and fuel injection, fuel pumps, (mechanical and electrical), fuel tank, filters, and fuel lines. Students learn how to troubleshoot and repair these systems, using special tools and equipment designed especially for automotive fuel systems diagnosis and repair.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: None

AUT 1120 - Automotive Analysis
An analytical approach to troubleshooting and preventive maintenance through the use of mechanical equipment, electronic instrumentation, and visual inspection will be studied. Students will train on various electronic analysis equipment for proper troubleshooting diagnosis. Students will be instructed in procedures to be followed in troubleshooting analysis of an internal combustion engine, brakes, steering and suspension, electrical circuits, and drive lines.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

AUT 1121 - Braking Systems
A complete study of the various braking systems employed on automobiles and lightweight trucks will be covered. Emphasis is placed on braking systems, how they operate, proper adjustment and repair, and safety factors involved.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4
Prerequisite: None

AUT 1123 - Automotive Chassis and Suspension Systems
This course includes the principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems will be covered. Units to be studied: shock absorbers, springs, steering systems, steering linkage, and front end alignment.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: None

AUT 1124 - Automotive Power-Train Systems
This course will include the principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles, and differentials. Identification of troubles, servicing, and repair will be covered.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: None

AUT 1125 - Automotive Servicing
Emphasis is on the shop procedures necessary in determining the nature of troubles which may develop in the various component systems of the automobile. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing, and replacing will be covered.
Course Hours Per Week: Class 3, M. Lab 9.
Quarter Hours Credit 6.
Prerequisite: None

AUT 1126 - Schematics and Diagrams: Automotive
Emphasis is placed on interpretation and reading of manufacturing diagrams. Student will develop the ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes will be covered.
Course Hours Per week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

AUT 1129 - Emission Systems: Automotive
The purpose of this program is to provide a basic knowledge of what the various Emission Control Systems are and how they operate. Once the basics of these systems are understood, the knowledge can be applied to specific applications which the student will use to handle future changes in Emission Control Systems. Topics to be covered are Air Pollution, Major Pollutants, Photochemical Smog, Hydrocarbon, Carbon Monoxide, oxides of Nitrogen, particulates, Air Pollution legislation and regulatory agencies, and automotive emission controls.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

BIO 1003 - Introduction to the Human Body
This course is designed to help the student gain knowledge about the human body. The types of health are identified as they relate to nurses and patients. Useful signs in the evaluation of health or deviations from health are explained. Lectures will be given on heredity, introductory bacteriology and immunity. Detailed information will then be given on each system of the body.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: None

BIO 1121 - Human Anatomy and Physiology
Persons that will spend their lives working in the medical fields, e.g., dental hygiene, nursing, etc., will find it necessary to have a fundamental knowledge of the structure of the human body. These medical workers at various times may be expected to make judgements as to emergency action and may also be asked to carry out services for individuals which require knowledge of human anatomy and physiology and some concept of the totality of the human body.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: None

BPR 1104 - Blueprint Reading
Students will study interpretation and reading of blueprints. Information is provided on the basic principles of the blueprint: lines, views, dimensioning procedures and notes.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

BPR 1105 - Blueprint Reading
Emphasis is placed on further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operation, introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: BPR 1104.

BPR 1106 - Blueprint Reading
Students will study advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawing of complex parts and mechanisms for features of fabrication, construction, and assembly is included.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: BPR 1105

BPR 1108 - Blueprint Reading
This is a general course in interpreting blueprints. Analysis of electrical and pneumatic systems will be emphasized. Mechanical devices including piping, machines, gears, and system color coding will be introduced.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: BPR 1104

BPR 1109 - Blueprint Reading
This is a general course in interpretation of blueprints. Analysis of electrical and plumbing systems will be emphasized. Mechanical devices including heat and air, insulation, structure design, and system color coding will be introduced.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: BPR 1104

BPR 1110 - Building Trades Blueprint Reading and Sketching
Emphasis is placed on principles of interpreting blueprints and trade specifications common to the building trades. Students develop proficiency in making plan and pictorial sketches.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

BPR 1112 - Blueprint Reading: Welding
Emphasis is placed on a thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications are introduced.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

BPR 1113 - Blueprint Reading: Building Trades
Emphasis shall be placed upon reading and understanding all aspects of actual blueprints and the interpretation expected by the architect. Dimensions, symbols, special specifications, etc. are to be emphasized in this course.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

BPR 1117 - Blueprint Reading: Welding
This is a continuation of DFT 1112 which embodies a thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications will also be studied.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: None

BPR 1120 - Blueprint Reading of Pipe Drawings and Pipe Sketching
Students will learn basic principles and methods of reading; reading and dimensioning pipe drawings with emphasis on piping relating to welders.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: None.

BPR 1131 - Schematics and Diagrams: Marine and Diesel
This course covers the interpretation and reading of blueprints. It promotes the development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on lines, views, dimensioning procedures, and notes will be covered.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

BPR 1135 - Blueprints and Field Coordination
Construction blueprints will be studied and field trips will be made to construction sites in order that students may gain first-hand experience reading project blueprints of jobs under construction presently by contractors. Estimating and actual work procedure will be emphasized in this course.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

BTB 1110 - Boatbuilding I
This course introduces the student to the safe and proper handling of power and hand tools in the boat shop. The sharpening, maintenance, and necessary adjustment of tools is stressed so that the student can realize optimum results from the equipment. Also, the student will be introduced to lofting and building a simple flat bottomed boat.
Course Hours Per Week: Class 5, M. Lab 12.
Quarter Hours Credit 9.
Prerequisite: None

BTB 1111 - Boatbuilding II
More advanced hull development will be approached in this course. A jig is constructed from plans that could be used to build a single fiberglass or wooden boat, or a plug from which a mold could be made. The student is introduced to modern fabrics, core materials, and resins used in the fiberglass industry.
Course Hours Per Week: Class 4, M. Lab 12.
Quarter Hours Credit 8.
Prerequisite: BTB 1110

BTB 1112 - Boatbuilding III
This course will introduce the student to wood and glass lamination techniques. The students will build a small sandwich core fiberglass boat and practice the fairing process, as well as the application of modern marine finishes.
Course Hours Per Week: Class 3, M. Lab 12.
Quarter Hours Credit 7.
Prerequisite: BTB 1111

BTB 1114 - Yacht Repair and Renovation
This course introduces repair principals and methods for wood and fiberglass boats.
Course Hours Per Week: Class 4, M. Lab 9.
Quarter Hours Credit 7.
Prerequisite: BTB 1112

BUS 1103 - Small Business Operations
This course is an introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer - employee relations.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

BUS 1183 - Terminology and Vocabulary
This is a thorough course in word study appropriate for use in business, technical and professional offices. It emphasizes spelling and meaning of words, with an in-depth study of word stems, prefixes and suffixes.
Course hours per week: Class 3,
Quarter hours credit 3
Prerequisite: None

CAR 1101 - Carpentry (Rough)
This course is a brief history of carpentry. Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools used in cutting, shaping, and joining construction materials used by carpenter. Carpentry layout and framing basics will be emphasized in this course.
Course Hours Per Week: Class 6, M. Lab 12.
Quarter Hours Credit 10.
Prerequisite: None

CAR 1101-A - Carpentry (Rough)
This is a basic summary course in residential construction which will cover such topics as: tools needed in light construction, construction materials, leveling instruments, building layout, plans and codes, footings and foundations, floor framing, wall and ceiling framing, roof framing, roofing materials, windows and exterior doors, exterior wall finish, thermal and sound insulation, interior wall and ceiling finishing, finish flooring, and doors and interior trim. This course will provide information so that the student can plan for new construction or renovation.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

CAR 1101-B - Carpentry (Rough)
Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools. Practice in cutting, shaping, and joining construction materials used by the carpenter will be emphasized. A thorough discussion and assigned lab activities in building layout and construction of foundations will be covered.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: CAR 1101-A

CAR 1101-C - Carpentry (Rough)
This course will cover types of framing for residential construction, both platform and balloon framing. Post and beam construction will also be covered. Basic floor framing for platform construction will be covered and lab assignments made to reinforce this learning.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: CAR 1101-B

CAR 1101-D - Carpentry (Rough)
Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools. In this course, emphasis will be placed on wall and roof framing and those procedures needed to build a residential home.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: CAR 1101-C

CAR 1102 - Carpentry (Framing)
Emphasis is placed on practical application in rough carpentry which consists of: framing, roofing, window and exterior door installation, exterior wall covering, exterior trim, and form work. Roof layout and framing will be emphasized in this course.
Course Hours Per Week: Class 5, M. Lab 15.
Quarter Hours Credit 10.
Prerequisite: None

CAR 1103 - Carpentry (Finishing)
Millwork as performed by the general carpenter during building construction using shop tools and equipment will be emphasized in this course. Practical applications will include measuring, layout, and construction of door and window frames, stairs, interior and exterior cornice and trim work. Prefabricated materials will also be covered. Exterior and interior trim and finishing carpentry will be studied.
Course Hours Per Week: Class 4, M. Lab 21.
Quarter Hours Credit 11.
Prerequisite: None

CAS 1510 - Introduction to Microcomputers
This course will introduce the student to microcomputers and their applications. Installing and configuring hardware using the disk operating system will be covered. Topics of study will include computer interfaces, special application cards, hardware compatibility and software applications for industry.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

DEN 1001 - Introduction to Dental Assisting
A study of the history of dentistry and dental assisting with an introduction to the role of the dental assistant in modern practice as a member of the dental health team. Includes the education, function, respective professional organizations, laws and ethics governing the practice of dentistry, professional conduct of the dental assistant and an introduction to dental terminology.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

DEN 1002 - Dental Materials I
A study of the physical and chemical properties and origin of dental materials, including the manufacturing process of specific materials. Laboratory exercises are designed to develop competency in skills in manipulation and application of the materials to dental procedures. Emphasis is on gypsum products, waxes, impression materials and polymers.
Course Hours Per Week: Class 1, Clinical 3.
Quarter Hours Credit 2.
Prerequisite: None

DEN 1003 - Dental Sciences
This course includes two units of dental science and is designed to be taught sequentially or concurrently for flexibility in scheduling. Unit one is the study of embryology, histology, anatomy, physiology and morphology of the human dentition and its supporting structure and environment. Laboratory sessions are structured to facilitate the learning of form, function and identification of oral structures with special emphasis on the identification of the primary and permanent dentition. Unit two is the study of the bones, muscles, blood, lymph and nerve supplies of the head and neck region. Landmarks of the skull are identified and the relationship of head and neck anatomy to dental assisting is emphasized.
Suggested hours:
Course Hours Per Week: Class 2.
Quarter Hours Credit 2.
Prerequisite: None

DEN 1004 - Dental Anatomy
This course is designed to familiarize the dental assisting student with all phases of dental anatomy including structures of the mouth, tooth morphology, eruption and exfoliation of primary and permanent teeth, occlusion, normal periodontology, head and neck anatomy, histology, and embryology. Students will gain experience in identifying natural teeth, observing normal intraoral anatomy, and classifying occlusion.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

DEN 1005 - Preclinical Science I
This course includes three units of biomedical science and is designed to be taught sequentially or concurrently for flexibility in scheduling. Unit one is a study of general anatomy and physiology of basic body structure and function, particularly as it relates to the general and oral health of the patient. Metric system weights and measures and temperature measurements are included. Unit two is a study of the classifications and characteristics of microorganisms with special emphasis on epidemiology and control of microorganisms by physical and chemical agents. Unit three is a study of the basic principles of nutrition and their application to oral and general health.
Course Hours Per Week:
Class 3, Clinical 3.
Quarter Hours Credit 4.
Prerequisite: None

DEN 1006 - Dental Materials II
A study of physical and chemical properties of dental materials used in restorative dentistry. Laboratory exercises are designed to develop competencies in skills in manipulation and application of the materials in dental procedures.
Course Hours Per Week: Class 2, Clinical 2.
Quarter Hours Credit 3.
Prerequisite: DEN 1002

DEN 1007 - Preclinical Sciences II
A clinical science course to increase skill competency levels in operative dentistry, local anesthesia, radiography, dental operatory equipment, instruments, sterilization, charting and patient management. Major emphasis is given to principles and procedures of the dental specialities, including endodontics, periodontics, orthodontics, prosthodontics, pedodontics; oral surgery, anesthesiology and public health dentistry.
Course Hours Per Week: Class 4.
Quarter Hours Credit 4.
Prerequisite: DEN 1005

DEN 1008 - Dental Office Management I
Principles and procedures related to dental office management. Fundamentals of accounting and financial management are applied to dental office procedures. Opportunity for competency development in preparing, processing, maintaining and storing records; communications, scheduling appointments, inventory control and patient management is provided in laboratory skill practice.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: DEN 1001, DEN 1003

DEN 1009 - Dental Radiography
The principles and techniques of exposing, processing, mounting, interpreting, filing and storing intraoral and extraoral radiographic film. Characteristics of film, film selection for various techniques and care of equipment and facilities are included. Radiation physics, biological hazards and protection of patient, operator and others are emphasized. Laboratory and clinical practices are designed according to current legal requirements.
Course Hours Per Week: Class 2, Lab 6.
Quarter Hours Credit 5.
Prerequisite: DEN 1003

DEN 1010 - Clinical Procedures I
Designed to prepare the student to anticipate the needs of the dentist, to assist in basic procedures and to utilize management skills. This course provides an introduction to the principles and procedures related to operatory equipment, instruments, sterilization and chairside dental assisting techniques including four handed dentistry. Major emphasis will be given to principles and procedures of operative dentistry and local anesthesia.
Course Hours Per Week: Class 5, Clinical 6.
Quarter Hours Credit 7.
Prerequisite: DEN 1004

DEN 1011 - Dental Office Management II
Designed to prepare the student for employment as a dental assistant. Ethical, legal and personal responsibilities; testing and certification requirements; professional development and clinical practice experiences will be discussed in group sessions to determine the diversity and depth of learning experiences, and to evaluate and plan subsequent assignments.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: Third Quarter standing in the Dental Assisting Program

DEN 1012 - Dental Office Practice I
A clinical science course in principles and procedures of operative dentistry, local anesthesia, dental operatory equipment, instruments, sterilization, charting and patient management. Emphasis is on developing skill competency in anticipating the needs and assisting the dentist in four-handed dental procedures.
Course Hours Per Week: Clinical 15.
Quarter Hours Credit 5.
Prerequisites: DEN 1002, DEN 1003

DEN 1013 - Basic CPR and Dental Emergencies
A study of the recognition, prevention and management of dental office emergencies. Laboratory experiences include practice in basic life supporting procedures (CPR), artificial respiration, procedures for relieving foreign body obstruction of the airway and monitoring and recording vital signs, classification of drugs, and evaluating medical histories.
Course Hours Per Week: Class 1.
Quarter Hours Credit 1.
Prerequisite: None

DEN 1014 - Clinical Procedures II
A continuation of Clinical Procedures I including experiences to increase level of competency in patient management and chairside assisting. Special emphasis is placed on the dental specialties and the dental assistant's role in oral surgery, endodontics, pedodontics, prosthodontics, orthodontics and periodontics. Clinical sessions are designed to provide practical experience in chairside assisting.
Course Hours Per Week: Class 6, Clinical 6.
Quarter Hours Credit 8.
Prerequisite: DEN 1006

DEN 1015 - Dental Office Practice II
A clinical practice learning experience to increase dental assisting skills to job-entry level competency. Clinical assignments in various dental specialty practices, as well as general dentistry practices, will provide opportunities for advanced skill development in chairside assisting techniques, clinical support and business office procedures.
Course Hours Per Week: Clinical 24.
Quarter Hours Credit 8.
Prerequisite: DEN 1012

DEN 1016 - Oral Health and Nutrition
A study of the etiology, prevention and control of dental caries and periodontal disease with emphasis on the dental assistant's role in oral health education. Audiovisual materials, phase microscope, caries susceptibility tests and plaque scoring indices are included in the interpretation of dental health information. Communication skills, nutritional counseling, oral physiotherapy, fluorides, accident prevention and periodic recall are emphasized through clinical experiences in patient education.
Course Hours Per Week: Class 2, Clinical 3.
Quarter Hours Credit 3.
Prerequisite: DEN 1003

DFT 1127 - Marine Drafting
Students will learn how to read and understand boat plans. Each student will develop a lines plan from a table of offsets using standard marine drafting equipment. There will also be projects designed to give the student practical experience in interpreting blueprints.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: None

DFT 1501 - Computer Aided Design
This course introduces the student to the use of computers for designing mechanical devices. The student will utilize personal computers to design mechanical objects and prepare necessary drawings for manufacture. The geometry data will then be transferred to the Computer Aided Manufacturing (CAM) system for use in programming Computer Numerical Control (CNC) codes machine tools.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisite: BPR 1106 or instructor's permission

DIE 1100 - Introduction to Gas and Diesel Engines
This course promotes the development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. It includes a study of the construction and operation of components of gas and diesel engines, as well as the testing of engine performance, servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication, and methods of testing, diagnosing and repairing.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: None

DIE 1101 - Marine and Diesel Engine Theory and Practice I
This course covers the principles of main propulsion of vessels, heavy equipment, and trucks employing internal combustion engines. Construction and various designs of the operational principles of two- and four-cycle internal combustion engines and their related piping systems, cooling, and lubrication are covered. Also, procedures for "lighting off" will be covered.
Course Hours Per Week: Class 2, M. Lab 12.
Quarter Hours Credit 6.
Prerequisite: None

DIE 1101-A - Marine and Diesel Engine Theory and Practice I
This course covers introduction and various designs of the two- and four-cycle internal combustion engines.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

DIE 1101-B - Marine and Diesel Engine Theory and Practice I
This course covers the principles of main propulsion of vessels, heavy equipment, and trucks employing internal combustion engine.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: DIE 1101-A

DIE 1101-C - Marine and Diesel Engine Theory and Practice I
This course will cover related parts of the cylinder block of the two- and four-cycle engine; lubrication and cooling will be covered in relationship to these parts.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: DIE 1101-B

DIE 1101-D - Marine and Diesel Engine Theory and Practice I
This course will cover the cylinder head and all the moving parts related to the two- and four-cycle engine including lubrication, cooling, and piping systems.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: DIE 1101-C

DIE 1102 - Marine and Diesel Engine Theory and Practice II
This course deals with two-cycle diesel engines that are used for propulsion of vessels and heavy equipment and trucks. In the construction and design of various two-cycle engines and their related system, cooling lubrication and air intake systems are covered. Procedure for "lighting off" and preventive maintenance will be discussed.
Course Hours Per Week: Class 3, M. Lab 12.
Quarter Hours Credit 7.
Prerequisite: None

DIE 1103 - Marine and Diesel Engine Theory and Practice III
This course deals with the administration of gasoline and diesel engineering plants through the recording and filing of performance data. The course is also a continuation of two- and four-cycle engines, and rebuilding, which includes preventive maintenance and periodic checks of diesel engines. This course will cover in great detail troubleshooting of two- and four-cycle engines.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: None

DIE 1104 - Marine and Diesel Power-Train Systems I
This course is a study of principles and functions of Marine and Diesel Power-Train Systems and disassembly and assembly of clutches, torque converters, torque dividers, fluid couplings, manual transmissions, planetary systems, and automatic transmissions.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

DIE 1105 - Marine and Diesel Power-Train Systems II
This course is a study of principles and functions of Marine and Diesel Power-Train Systems and disassembly and assembly of marine gears, drive lines, final drives, differentials, and rear axles.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

DIE 1108 - Gas and Diesel Fuel Systems I
This course provides a thorough study of the fuel systems of the marine and diesel engines, fuel pumps, carburetors, fuel injection pumps and air intake systems. Characteristics of fuels, types of fuel systems, special tools and testing equipment for the fuel systems of marine and diesel engines are studied.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

DIE 1109 - Gas and Diesel Fuel Systems II
This course is a continuation of the study of fuel systems injection pumps. Characteristics of fuels, types of fuel systems, special tools and testing equipment for the fuel systems of marine and diesel engines will be covered.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

DIE 1110 - Gas and Diesel Fuel Systems III
This course is a continuation of the study of fuel systems and injection pumps. Characteristics of the types of fuel systems, special tools, and test equipment for the fuel systems of marine and diesel will be covered.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1006 - Language Arts in Early Childhood
This course deals with the child and his or her social environment. Emphasis is on the use of a variety of teaching techniques which will stimulate language development and an awareness of the child's social environment and social learnings.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1009 - Art in the Early Childhood Programs
This course is a study of art media in relation to the creative process in young children, of the educational component that each medium reinforces, and of the ways a variety of low-cost art activities can be incorporated into a program for young children. Laboratory sessions provide first-hand experience with all of the media, opportunities to explore the uses of each, and practice in the care and storage of materials. Each student will plan a meaningful sequence of art activities which could be incorporated into a program for young children.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Prerequisite: None

EDU 1022 - Mathematics and Science for Young Children
This course deals with the child and his or her physical environment. Emphasis is on a variety of teaching techniques designed to stimulate an interest in and an understanding of simple mathematics and science concepts by young children. Activities appropriate for children at different levels of development will be discussed.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1101 - Child Growth and Development (Infant-Toddler 0-24 months)
This course will study the development from birth to age two and study the problems specific to group care of children in this age group. Each student will develop a plan of care for a group of children; the plan must reflect concern for the child's total development and show procedures for dealing with the practical problems of providing safe care for children 0-24 months.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1102 - Child Growth and Development (Preschool 2-5 years)
This course deals with the basic principles of development and the developmental sequence of preschool aged children (2-5 years old). This age group will be examined in-depth with emphasis being given to factors influencing development.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1103 - Music and Integrated Activities
This course is designed to develop an awareness of the fundamentals of music; skill in utilizing a wide variety of materials for rhythm, singing, and instrumental performance; and use of creative movement and music for emotional expression and learning.
Course Hours Per Week: Class 1, Lab 2.
Quarter Hours Credit 2.
Pre/Corequisites: EDU 1101, EDU 1102 or permission of instructor

EDU 1105 - Health, Safety, and Nutrition of the Young Child
This course is designed to promote an understanding of factors which influence physical and emotional health and nutrition during infancy and childhood. Classroom activities focus on practices and procedures for promoting good health, safety, and nutrition among children in group care. The influence of child care workers on health, safety, and nutrition in a group care situation is emphasized throughout the course.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1106 - Nutrition/Cooking Experience
This course is designed to promote an understanding of basic nutritional concepts. This nutrition information will enhance the student's ability to provide cooking experiences for his or her curriculum planning in the classroom.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1111 - Communicating Effectively with Young Children
This course is a study in interpersonal communication between the child care worker, parents, other staff, and children. The student will acquire the abilities of speaking openly and frankly without alienating. Being a skillful listener, receiving and accepting suggestions, giving additional insights, and communication techniques will be studied in this course.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1113 - Early Childhood Curriculum Planning: Social Studies and Special Holidays
This course is designed to help students provide opportunities for children to understand, acquire and use verbal and nonverbal means of communicating thoughts and feeling. Students will have an opportunity to design learning episodes that will help children develop their communication skills by providing planned opportunities for children to listen, interact, and express themselves with other children and adults.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisites: EDU 1101, EDU 1102 or permission of instructor

EDU 1115 - Early Childhood Curriculum Planning: Construction, Physical, and Blocks
This course will assist students in learning to provide a variety of equipment, activities, and opportunities to promote the physical development of children.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisites: EDU 1101, EDU 1102 or permission of instructor

EDU 1116 - Early Childhood Curriculum Planning: Cognitive
In this course the student will learn how to design and implement activities and experiences that develop questioning, probing, exploration, and problem-solving appropriate to the developmental levels and learning styles of children.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisites: EDU 1101, EDU 1102 or permission of instructor

EDU 1118 - Operation of Child Care Programs
This course is designed to assist students in establishing policies and procedures for the operation of a center for the daily group care of young children. Financial and managerial day care skills will be stressed.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisites: EDU 1101, EDU 1102, EDU 1130 or permission of instructor

EDU 1122 - Guiding Children's Behavior
This course is designed to help the student develop an understanding of discipline as an educational tool for the young child. It is important for the early childhood teacher to develop an attitude of positive interaction with children and other adults in order to foster growth of positive behavior in young children.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisite: EDU 1101, EDU 1102 or permission of instructor

EDU 1125 - Working with Parents
The purpose of this course is to learn how to have open, positive, and meaningful communication between staff and parents. Also, to help promote understanding and sharing of responsibilities to actively involve parents in their child's preschool/day-care experience, including activities for the working parent.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1130 - Introduction to Preschool Education
This course will cover the philosophy of early childhood education, the types of experiences, facilities, and media which will promote optimal development of each child. Licensing and Approval Standards will be explored. Opportunities to compare a variety of early childhood programs will be provided.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

EDU 1138 - Program Planning for Infants and Toddlers
This course is designed to provide students with an awareness of basic principles of early childhood education and trends from theory, practice, and research that have contributed to the development of programs for infants and toddlers; programming approaches used in day cares; an organized collection of development concepts specific for programmers, teacher, and caregiver roles; behavioral descriptions; suggestions for settings and activities from which the teacher-caregiver can select and learn; infant/toddler programming issues and problems; and features from a variety of infant/toddler program models.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisite: EDU 1101 or permission of instructor

EDU 1148 - Infant-Toddler Care
This course provides a study of techniques and problems specific to the care and guidance of infants and toddlers. The provision of consistent, nurturing care, appropriate stimulation, and arrangement of the environment will also be addressed.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Pre/Corequisite: EDU 1101 or permission of instructor

EDU 1203 - Exceptional Children
This course is designed to guide the student in a study of children with developmental variations requiring modification in activities. Consideration is given to recognition of problems, community resources, and appropriate activities for the child with exceptional deviations in mental or physical development.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

ELC 1100 - Basic Electricity
This course is an introduction to basic principles of electricity, basic electric units and symbols, Ohm's Law, and the use of electrical measuring instruments. This course is not as in-depth as ELC 1104, Basic Electricity.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

ELC 1101 - Practical Marine Electricity
Emphasis is placed on an understanding of the basic 12-volt (DC) direct current electrical system from boat batteries. The (AC) alternating current system which is on some small vessels is also discussed. The installation and wiring of the various lights, electrical instruments and electric motors on a boat is studied in great detail. Safety is stressed throughout the course.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

ELC 1104 - Basic Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, symbols, and Ohm's Law regarding series and parallel circuits.
Course Hours Per Week: Class 5, M. Lab 9.
Quarter Hours Credit 8.
Prerequisite: None

ELC 1104-A - Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, conductors, and insulators.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: None

ELC 1104-B - Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, conductors, and insulators.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisite: ELC 1104-A

ELC 1105 - Basic Electricity II
This course gives an introduction to alternating current theory, sine wave generation and analysis, induction, reactance, impedance, phase relations, transformers, and power factor corrections.
Course Hours Per Week: Class 5, M. Lab 9.
Quarter Hours Credit 8.
Prerequisite: ELC 1104

ELC 1109 - Electrical Wiring
This course gives an introduction to basic theories and principles of electricity, as well as basic units, symbols, and Ohm's Law regarding series and parallel circuits. The course also gives a basic principle of residential and commercial wiring according to National Electrical Codes and area building codes.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

ELC 1111 - Direct and Alternating Electricity
This course provides a thorough study of the electrical system of the equipment powered by gas and diesel engines. Battery cranking mechanisms, generators and alternators, ignition systems, accessories and wiring special tools, and use of testing equipment for electrical systems are covered.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

ELC 1115 - AC and DC Machinery
AC and DC motors, generators, voltage and current regulators, speed control, reversing and braking systems, and characteristics are studied. The student will physically setup and wire various systems and then collect data to determine characteristics and efficiency of system.
Course Hours Per Week: Class 4, M. Lab 9.
Quarter Hours Credit 7.
Prerequisite: ELC 1104

ELC 1116 - Motor Control
This course is an introduction to control components, i.e., contractors, motor starters, pilot devices, code considerations, types of control, control circuits, analysis of control circuits, maintenance and troubleshooting of motor and control circuits including solid state.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 1111

ELC 1117 - Industrial AC Motors and Controls
This course will cover the fundamental concepts in single and polyphase circuits, machines, and controls. Instruction in the use of electrical test equipment in circuit analysis and troubleshooting will be given with practice in wiring electrical motors and motor control centers. Emphasis on OSHA safety regulations in the field of industrial electricity will also be given.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: ELC 1100

ELC 1120 - Electrical Calculations
This course is designed to improve the Industrial Electricity student's ability to solve problems relating to his or her field. Topics covered will include a review of series, parallel and combination circuits, power wire sizes, and line losses. Also included will be mathematics related to alternating current fundamentals including square root, Pythagorean Theorem, and practical trigonometry. Specific problems related to the electrical code book will also be discussed when applicable.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 1101

ELC 1125 - Industrial Wiring Practices
Wiring methods in industrial complexes are covered, including wire sizing, splicing, and code. Raceways, wireways, and duct systems are introduced. Accepted methods of wiring motors, motor starters, relays, and transformers are emphasized.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Prerequisite: ELC 1115

ELC 1150 - Basic Electricity
A study of the basic electrical principles and components needed for troubleshooting modern machines. A basic study is made of direct and alternating current and electrical distribution in series and parallel circuits. The students become familiar with the following electrical terms: insulators, conductors, semi-conductors, coil, solenoids and polarity, safety with the use of electricity, relays, and electrical devices is stressed at all times.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: None

ELC 1151 - Applied Wiring Diagrams
Common electrical control components with an emphasis on their function in a control circuit and the symbols utilized to identify them in wiring diagrams. Students will learn how to read wiring diagrams in order to identify and describe the functions of the control components and to diagnose and repair component malfunctions in an electrical control system.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

ELM 1111 - Electro-Mechanical Relays and Symbols
This course is an introduction to various types of relays (AC and DC), operating principles and characteristics. Various relay symbols are introduced. Maintenance and construction of relays are studied.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: ELN 1106

ELN 1106 - Instrument Familiarization
Students will learn the functional use of various tools and test equipment used in the electrical field.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: None

ELN 1130 - Solid State Devices, Circuits, and Symbols
This course is an introduction to the theory and applications of solid state devices used in industry, especially solid state control circuits for motors and related equipment. Basic transistor circuits, vacuum tubes, and basic vacuum tube circuits are covered. Programmable control systems are examined and programmed.
Course Hours Per Week: Class 5, M. Lab 6.
Quarter Hours Credit 7.
Prerequisites: ELC 1105, DFT 1104, ELN 1111

ENG 0080 - Basic Communication Skills
This course is designed to improve the student's basic English skills through concentrated work on usage, spelling, and fundamentals of grammar and punctuation. It emphasizes the writing of clear and mechanically correct sentences. Laboratory work may be required.
Course Hours Per Week: Class 5.
Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

ENG 1101 - Communication Skills
This course covers the basics of communication and their application to on-the-job activities. The student is introduced to memos, work estimates, work orders, necessary forms and records, and the writing of effective letters, including the application letter and resume. Emphasis is placed on descriptions and giving directions.
Course Hours Per Week: Class 2.
Quarter Hours Credit 2.
Prerequisite: None

ENG 1102 - Communication Skills
This course covers the task skills involved in preparing for and undergoing an interview for a job. It also covers visualizing concepts and data, finding references through library use, taking notes, and organizing, writing, and presenting orally a report related to the student's field of study.
Course Hours Per Week: Class 2.
Quarter Hours Credit 2.
Prerequisite: ENG 1101

FBG 1101 - Fiberglass Mold Making
Students will be introduced to the basics of constructing male and female molds for fiberglass production.
Course Hours Per Week: Class 4, M. Lab 9.
Quarter Hours Credit 7.
Prerequisite: MSC 1112

HYD 1121 - Industrial Hydraulics I
This course covers the fundamentals of hydraulics and its uses in industry. A study of power transmission through hydraulics, the course will cover components and their function, pumps (gears and vanes), cylinders, and control valves.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

HYD 1122 - Industrial Hydraulics II
A continuation of MEC 1121, this course will cover industrial hydraulic circuits and components including governors, valve control and instrument control in detail.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: HYD 1121

HYD 1136 - Fundamentals of Hydraulics
The fundamentals of hydraulics and its use to transmit power are studied, including the following components and their function: pumps, lines, cylinders, valves, gauges and controls. Proper care, use, installation and storage of test equipment, minor repairs, assembly, removal and replacement of equipment are also covered.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: None

MAS 1101 - Masonry
The history of the bricklaying and the masonry industry, raw materials, terminology, clay and shell brick, concrete block, mortar, laying foundations, cutting masonry materials, bonding, and the use, care, and maintenance of tools will be covered. Practice is given in selecting the proper mortars, layout, and construction of various building elements using brick and concrete block in order to develop skills in these areas.
Course Hours Per Week: Class 5, M. Lab 15.
Quarter Hours Credit 10.
Prerequisite: None

MAT 1101 - Trade Mathematics
This course is designed to enhance the mathematical capabilities of each student. The general context of the course will be the coverage of the four basic operations working in the areas of whole numbers, common fractions, and decimals. The principles of prime numbers, dimensional analysis, percentage, ratios and proportions will also be covered. The course endeavors to use practical problems where possible.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: None

MAT 1102 - Trade Mathematics
This course further enhances the mathematical capabilities of the student through the study of powers and roots of numbers, solutions and manipulations of formulas, first and second degree equations, linear measure, areas and volumes of regular geometric figures. Practical word problems are used in all areas of study where applicable.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 1101

MAT 1122 - Machinist Mathematics I
This course is designed to acquaint the machinist with the mathematical tools most useful to the trade. The areas of Metric Measurement, Ratio and Proportion, Basic Trigonometry, and Fundamental Geometry are utilized in the light of practical machine trade problems.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 1102

MAT 1123 - Machinist Mathematics II
This is the second of two mathematic courses designed to acquaint the machinist with the mathematical tools most useful to the trade. The course will enhance the topics of the first course. The content herein will also cover the topics of indexing, Helix angles, angle measuring of various types, cutting speeds, plus some time in numerical control familiarization.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 1122

MAT 1500 - Math for Manufacturing
This course reviews geometric concepts and extends trigonometric concepts to include oblique triangles with application to practical shop problems. Topics include geometric propositions and trigonometry of right and oblique triangles (the sines and cosines laws). Upon completion, students will be able to apply both geometric and trigonometric concepts in the solution of problems encountered in the machine shop.
Course Hours Per Week: Class 5.
Quarter Hours Credit 5.
Prerequisite: MAT 1123 or instructor's permission

MEC 1101 - Machine Shop Theory and Practice
This course is an introduction to the machinist trade and the potential it holds for craftsmen. It deals primarily with the identification, care, and use of basic hand tools and precision-measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: None

MEC 1101-A - Machine Shop Theory and Practice
This course is an introduction to the machinist trade and the potential it holds for craftsmen. Deals primarily with safety precautions in machine shops and introduction to machine tools.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MEC 1101-B - Machine Shop Theory and Practice
This course is an introduction to linear measurements, fractions, and decimals. Deals primarily with the identification, care, and use of basic hand tools and precision-measuring instruments.
Course Hours Per Week: Class 1, M. Lab 6.
Quarter Hours Credit 3.
Prerequisite: MEC 1101-A

MEC 1101-C - Machine Shop Theory and Practice
This course deals primarily with elementary layout procedures and processes of lathe, drill press, grinding (off-hand); milling machines will be introduced both in theory and practice.
Course Hours Per Week: Class 1, M. Lab 6.
Quarter Hours Credit 3.
Prerequisite: MEC 1101-B

MEC 1102 - Machine Shop Theory and Practice
Students will study advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine, and shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select projects encompassing all the operations, tools, and procedures thus far used and those 15 be stressed throughout the course.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: MEC 1101

MEC 1103 - Machine Shop Theory and Practice
Students will study advanced work on the engine lathe, turning, boring and threading machines, grinders, and milling machine. Course includes introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, worm gears, and wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder. Also, introduction to C.N.C. programming for turning and milling with digital readouts.
Course Hours Per Week: Class 3, M. Lab 15.
Quarter Hours Credit 8.
Prerequisite: MEC 1102

MEC 1104 - Machine Shop Theory and Practice
Emphasis is placed on development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully, and establishing good work habits and attitudes acceptable to the industry. Fundamentals in computer-controlled machine tool programs, operation, and setup. Heat treating of steel and steel alloys as it relates to the machinist is included in this course.
Course Hours Per Week: Class 4, M. Lab 12.
Quarter Hours Credit 8.
Prerequisite: MEC 1103

MEC 1109 - Computer Controlled Machine Tools I
This course is an introduction to computerized numerical controlled machine tools. It deals primarily with numerical control and computerized numerical control machine tools as used in modern industry. The student will be introduced to simple part programs, setups, and operation of the computerized numerical control lathes and mills.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisite: MEC 1102 or permission of instructor

MEC 1110 - Computer Controlled Machine Tools II
Students will study and develop part programs for computer numerical control lathes and mills. Emphasis will be placed on programming, setup, and operation of computer numerical control lathes and mills. Also the student will be introduced to computer aided design and computer aided manufacturing (CAD-CAM) as used in modern industry.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisites: MEC 1103, MEC 1109

MEC 1113 - Shop Processes I
This course is a study of practices used in metalworking shops. Introduction to how materials can be utilized and to the processes of shaping, forming, and fabricating metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear-cutting machines, and finishing machines. Students will study the capabilities of these machines.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

MEC 1114 - Shop Processes II
This course will cover the comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metalworking processes are demonstrated and discussed. Mass-projection methods are studied in relationship to precision dimensional control.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: MEC 1113

MEC 1127 - Industrial Mechanics I
This course is an introduction to the nature of work required of an industrial maintenance mechanic and his role in industry. It will deal with the identification, care, and use of basic hand tools used by a maintenance mechanic, including portable power tools and measuring devices. Also included are special tools and holding devices, methods of layout and fabrication, and threading and tapping. Benchwork such as filing, shaping, and forming metal parts will be practiced. OSHA standards will be stressed and will involve good housekeeping and shop safety.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Prerequisite: None

MEC 1127-A - Industrial Mechanics I
This course is first of a four-part series. It is an introduction to the nature of work required of an industrial maintenance mechanic and his role in industry. Instruction will cover hand tools and measuring devices. Drilling and taping will be discussed. Safety and housekeeping will be stressed.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

MEC 1127-B - Industrial Mechanics I
This course will introduce the student to threading systems, taps, dies, and drill sizes. Holding devices will be discussed. Bench work will be performed. Filing, shaping, and layout of parts will be covered.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: MEC 1127-A

MEC 1128 - Industrial Mechanics II
This course is a study of the various types of industrial piping systems and plumbing fixtures. It will cover types of pipe and fittings, methods of installation and repair, and include threading and pipefitting. Valves and other plumbing fixtures will be covered with emphasis on installation service and repair of existing systems.
Course Hours Per Week: Class 4, M. Lab 9.
Quarter Hours Credit 7.
Prerequisite: None

MEC 1129 - Industrial Mechanics III
This course will cover the installation, repair, and servicing of mechanical power transmission equipment, including gears, belts, and roller chains. Basic rigging procedures and use of jacks, chain falls, and floor lifts will be covered. Emphasis will be on troubleshooting and routine maintenance tasks normally performed by the industrial mechanic.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Prerequisite: None

MEC 1130 - Industrial Mechanics IV
This course will cover centrifugal and positive displacement type pumps and their principles of operation and theory. Training in assembly, parts replacement, packing and mechanical seal installation will be covered. Emphasis will be placed on motor pump alignment.
Course Hours Per Week: Class 5, M. Lab 9.
Quarter Hours Credit 8.
Prerequisites: MEC 1127, DFT 1104

MEC 1512 - Turning Center Programming and Operation
This course will concentrate on advanced programming and operation of modern turning centers. Complex part programs using standard RS274D format will be studied in depth. Internal threading, external threading, multiple repetitive cycles and circular interpolation are some of the programming techniques that will be covered. Various operational techniques will be included.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 1514 - Computer Aided Manufacturing I
This course is a study of computer aided manufacturing using the latest in microcomputer technology. Computer Aided Design (CAD) and Computer Aided Machining (CAM) software will be linked together to generate the numerical code necessary to machine complex parts on CNC machine tools. Each student will utilize the CAD/CAM system to manufacture a variety of parts on CNC turning centers and CNC milling machines. Complete documentation of each job setup and related materials.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 1515 - Computer Aided Manufacturing II
This course is a continuation of MEC 2014 in which advanced CAD/CAM technology will introduced. Complex parts will be manufactured in an industrial production environment with emphasis placed on cycle time and profitability of the machining process.
Course Hours Per Week: Class 2, Lab 4.
Quarter Hours Credit 4.
Prerequisite: MEC 1514 or instructor's permission

MEC 1518 - Computer Numerical Control (CNC) Milling Programming and Operation
This course concentrates on advanced programming techniques for Computer Numerical Control (CNC) milling operations. Complex multipart programs will be developed using standard RS274D format code. Helical interpolation, mirror image, cutter compensation and zero shift are some of the programming topics that will be included. Auxiliary functions and feed functions will be studied in depth.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 1520 - Jigs and Fixtures I
This course is a study in the fundamental principles and uses of jigs and fixtures. The various types of jigs and fixtures and their identification will be studied. Processes of designing and manufacturing simple jigs and fixtures will also be covered.
Course Hours Per Week: Class 4, Lab 2.
Quarter Hours Credit 5.
Prerequisite: MEC 1104 or equivalent experience

MEC 1521 - Jigs and Fixtures II
Students will put into practice the theory that was emphasized in Jigs and Fixtures I. Emphasis will be placed on the manufacture of jigs and fixtures to precise tolerances in the most economical manner possible.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: MEC 1520

MSC 1120 - Marine Systems
Students are introduced to the fundamentals of marine plumbing, inboard engine alignment, thru-hull installation, and simple wire and line splicing.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

NUR 101P - Fundamental of Nursing
This course introduces the student to nursing and to basic nursing knowledge and skills. Concepts of illness-wellness, basic needs, growth and development, stress and adaptation, and communication. The role of the LPN in the health care setting is addressed. The role of nutrition in meeting clients needs is correlated throughout the course. Selected nursing procedures are demonstrated and opportunities for practice and return demonstration of proficiency are provided in the laboratory setting. The student will have selected patient assignments in affiliating agencies and perform beginning nursing procedures. The nursing process is introduced as a systematic method of planning and providing nursing care
Course Hours Per Week: Class 6, Lab 4, Clinical 3.
Quarter Hours Credit 9.
Prerequisite: Acceptance in the LPN Program
Co/Prequisites: BIO 1003, PSY 105

NUR 105P - Issues and Trends
This course is designed to present current isues and trends which impact on the nursing profession. Legal, ethical, economical, and professional concerns are examined.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

NUR 1003 - Medical-Surgical Nursing I
Medical-Surgical Nursing is a two quarter course designed to acquaint the student to patients experiencing various types of common deviations in health. Med-Surg I is an introduction to the physical and psycho-social needs of the hospitalized adult experiencing illness., Homeostasis and the effects of stress are examined. Emphasis is placed on various types of common deviations in health, basic human growth and development and use of the nursing process to understand the nursing care needs of these patients. Nutrition and pharmacology are co-related to various types of illness and disease processes. Practice laboratory introduces and provides opportunity for practice of physical assessment, and more complex nursing skills. Clinical experiences in affiliating agencies are designed to provide opportunities to apply knowledge and learned technical skills and to develop beginning skills in use of the nursing process.
Course Hours Per Week: Class 6, Lab 2, Clinical 12.
Quarter Hours Credit 11.
Prerequisites: BIO 1003, NUR 101P, PSY 105
Corequisites: ENG 118, PHM 1002, PSY 110

NUR 1005 - Medical-Surgical Nursing II
Medical-Nursing II is a continuation of NUR 1003 with examination of the physical and psycho-socnal needs of the patient experiencing various types of common deviations in health. Concepts from previous nursing and related courses are incorporated to continue examining the various types of illness and disease processes. The nursing process is utilized in both the classroom and clinical areas to identify and assist in meeting physiologic and psycho-social nursing care needs of patients. Nutrition and pharmacology are correlated to common illness and disease processes.
Course Hours Per Week: Class 13, Clinical 15.
Quarter Hours Credit 18.
Prerequisite: NUR 1003
Corequisite: NUR 105P

NUR 1009 - Maternal-Child Health Nursing
This course is designed to assist the student in acquiring the fundamental knowledge required in maternity and pediatric nursing. The family's experience of pregnancy, birth and the postpartum period is presented with emphasis on the nurse's role in contributing to a successful outcome. The normal infant and the newborn experiencing difficulty are discussed. Care of the growing child and the family reinforces the students knowledge of growth and development of the child from infancy through adolescence. The child's experience of hospitalization presents the emotional impact of hospitalization on the family and the child at various age levels. The student is introduced to the etiology, treatment and nursing care of common disorders that affect the child from infancy through adolescence. The study of pharmacology as it related to the nurse's role in drug administration in maternal child care is continued. The importance of nutrition and current nutritional trends are discussed. Content progresses from the simple to the complex as the student continues to develop skill in the application of the nursing process. Clinical experiences are provided in acute, ambulatory, and outpatient settings.
Course Hours Per Week: Class 11, Clinical 12.
Quarter Hours Credit 15.
Prerequisites: NUR 101P, BIO 1003, PSY 110, NUR 1003, PHM 1002

PBT 1101 - Introduction to Health Care Team
This course is an introduction to the health care team. It describes the role of the phlebotomist in the relationship to other health care workers. The primary responsibility of the phlebotomist is for collecting blood specimens from patients for the purpose of laboratory analysis. The phlebotomist becomes familiar with the various types of health care institutions and departments in which he/she must interact. This course provides the student with an understanding of the basic concepts of communication and professional behavior. Topics include personal and patient interaction, professional protocol, communication skills, and the legal complications of the work environment.
Course hours per week: Class 1
Quarter Hours credit 1
Corequisites: PBT 1102, PBT 1103

PBT 1102 - Blood Collection Process
The phlebotomist is introduced to the blood collection concept. The students become familiar with collection equipment to include the various types of anticoagulants and blood collecting equipment. The study introduces the collection of other body fluids and of substances that can interfere in clinical analysis of blood constituents.
Course hours per week: Class 1, Clinical 3.
Quarter Hours Credit 2.
Corequisites: PBT 1101, PBT 1103

PBT 1103 - Safety, Quality, and Liability
Health care workers must have respect for infection control policies, safety, quality assurance and liability. This course introduces the phlebotomist to the importance of infection control, quality control, quality assurance, total quality management, laboratory safety and liability.
Course hours per week: Class 1.
Quarter Hours Credit 1.
Corequisites: PBT 1101, PBT 1102

PBT 1104 - Phlebotomy Clinical Experience
New Hanover Regional Medical Center has an affiliation with Cape Fear Community College to allow the students to do the clinical laboratory rotation. The laboratory rotation will be a nine (9) week and twelve (12) hours per week phlebotomy experience. The students will complete a minimum of:

100 successful venipunctures
25 successful skin punctures
5 observations of arterial punctures

The phlebotomy supervisor at New Hanover Medical Center will supervise the students during the clinical rotation and will submit a completed evaluation form for each student. The form will be submitted to Cape Fear Community College at the conclusion of the rotation. This evaluation will be part of the final student grade.

The student will be responsible for documenting each successful and unsuccessful venipuncture, skin puncture and arterial observation. The documentation must be submitted to the program coordinator at the conclusion of the rotation.
Course Hours Per Week: M. Lab 12.
Quarter Hours Credit 4.
Corequisites: PBT 1101, PBT 1102, PBT 1103

PHM 1002 - Pharmacology
The focus of this course is on basic concepts of pharmacology with a special emphasis on the role of the nurse in the clinical application of drug therapy. This course prepares the student to define terminology related to pharmacology and to discuss basic principles, types of drug preparations, storage considerations and legal responsibilities as well as to compute proper dosages and administer pharmocologic agents. Practice opportunities will be available during didactic and laboratory course components.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisites: BIO 1003, NUR 101P

PHY 1101 - Applied Science
This course is an introductory study of the properties of materials and the principles of electricity and magnetism. Topics included are measurement, solids, liquids, gases, electric circuits, electromagnetism, simple machines, and systems of measurement. This course is a lab course to furnish hands-on experience.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: None

PHY 1102 - Applied Science
A continuation of PHY 1101, this course views the simple machines along with power, energy, motion, and mechanical advantage. This is a lecture and lab course mainly designed for mechanical emphasis.
Course Hours Per Week: Class 3, Lab 2.
Quarter Hours Credit 4.
Prerequisite: PHY 1101

PLU 1101 - Basic Plumbing
This course is designed for the Light Construction curriculum and is a study of the various types of residential piping systems and plumbing fixtures. It will cover types of pipe and fittings, methods of installation and repair, and include threading and pipefitting. Valves and other plumbing fixtures will be covered with emphasis on installation service and repair of existing systems.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

PSY 1101 - Human Relations
This is a study of basic principles of human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

PSY 1102 - Growth and Development
This course has been designed to give the student an understanding of normal growth and development including the ages and stages of personality development. The student will have an opportunity to view normal growth and development in the community by visiting a day care center and nursing homes.
Course Hours Per Week: Class 2, Lab 2.
Quarter Hours Credit 3.
Prerequisites: DEN 1001, DEN 1002, DEN 1003, DEN 1004, DEN 1005

SAF 1119 - First Aid
This course is designed to prepare a student for certification in first aid by the American Red Cross. The student will learn such things as: how to identify symptoms of certain diseases, how to identify poisonous plants, and how to handle common emergencies, etc.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

SOC 1112 - Families in American Culture
The student will examine the characteristics, problems, and issues of families in American culture. Emphasis will be on ethnic families. Special attention will be given to programs designed for the culturally and/or educationally deprived child.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

WLD 1101 - Basic Welding
Emphasis is placed on welding demonstrations by the instructor and practiced by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment are stressed. Practice will be given for arc welding and flame-cutting methods applicable to mechanical repair work.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

WLD 1102 - Basic Welding
Emphasis is placed on welding demonstrations by the instructor and practiced by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment are stressed. Practice will be given for arc welding and flame-cutting methods applicable to mechanical repair work.
Course Hours Per Week: M. Lab 3.
Quarter Hours Credit 1.
Prerequisite: None

WLD 1104 - Basic Gas Welding
Safe and correct methods of assembling and operating the welding equipment applied to the cutting and assembling of the metal tubing utilized in air-conditioning, heating, and refrigeration systems. Practice will be given to brazing and soldering aluminum, copper, and steel tubing.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

WLD 1106 - Welding and Burning I
This course involves welding demonstrations by the instructor and practiced by students in the welding shop. The metallurgy of welding is discussed, as are safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding and flame-cutting. Emphasis is placed on electric arc and gas welding methods applicable to mechanical repair work. Brazing is also covered.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisite: None

WLD 1107 - Welding and Burning II
This course is a continuation of WLD 1106, giving the students additional practice in arc welding which will improve their efficiency as a welder. Emphasis will be on safety and use of arc and gas welding equipment. Practice will include oxy-acetylene welding, brazing, soft solder and silver solder as needed in mechanical, ship and dock repair work. Also, there will be a demonstration, by instructor, of Tig, Mig, and Plasma welding.
Course Hours Per Week: M. Lab 6.
Quarter Hours Credit 2.
Prerequisite: WLD 1106

WLD 1119 - Basic Arc Welding and Oxy-Fuel Cutting
Emphasis is placed on the operation of the different types of AC and DC welding machines, and maintenance of welding machines. Studies are made on welding heats, polarities, and different types of welding electrodes used in joining various types of metals in the arc welding process. The set up and use of oxy-fuel cutting equipment is studied. After the student is capable of setting up welding equipment, practice weld beads will be made in all positions. Safety procedures are emphasized throughout the course in the use of tools and equipment.
Course Hours Per Week: Class 7, M. Lab 9.
Quarter Hours Credit 10.
Prerequisite: None

WLD 1119-A - Basic Arc Welding and Oxy-Fuel Cutting
This course will cover the operation of the different types of AC and DC welding machines, and maintenance of welding machines. Studies are made of welding heats, polarities, and different types of welding electrodes. After the student is capable of setting up welding equipment, practice weld beads will be made in the flat and vertical positions.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

WLD 1119-B - Basic Arc Welding and Oxy-Fuel Cutting
Further studies are made on different types of welding electrodes used in joining various types of metals in the shielded metal arc welding process. The setup and use of oxy-fuel cutting equipment is learned. Practice cuts will be made. Various cutting equipment and practice welds will be made in the overhead and horizontal positions with safety emphasized throughout.
Course Hours Per Week: Class 1, M. Lab 3.
Quarter Hours Credit 2.
Prerequisite: None

WLD 1119-C - Basic Arc Welding and Oxy-Fuel Cutting
This course will cover the maintenance of welding machines and oxy-fuel cutting equipment, cutting of steel to measured lengths and cutting bevels on plate steel, and making fillet welds and butt welds in all positions. Safety is emphasized throughout the course.
Course Hours Per Week: Class 2, M. Lab 3.
Quarter Hours Credit 3.
Prerequisite: None

WLD 1119-D - Basic Arc Welding and Oxy-Fuel Cutting
Further studies of electrical current AC and DC, welding electrodes and fluxes, welding machines, oxy-fuel cutting equipment, gases, and different types of steel will be covered.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: None

WLD 1122 - Commercial and Industrial Practices
This course is designed to build skills through practices in simulated industrial processes and techniques: sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding, and nondestructive testing and inspection.
Course Hours Per Week: Class 3.
Quarter Hours Credit 3.
Prerequisite: WLD 1119 or WLD 1127

WLD 1123 - Inert Gas Welding (Tig, Mig, and Plasma)
This course is an introduction and practical operations in the use of inert gas arc welding. A study will be made of the equipment, operation, safety, and practice in the various positions. A thorough study of such topics as principles of operation, shielding gases, filler rods, process variations and applications, and manual and automatic welding.
Course Hours Per Week: Class 7, M. Lab 6.
Quarter Hours Credit 9.
Prerequisite: WLD 1119 or WLD 1127

WLD 1124 - Pipe Welding
This course is designed to provide practice in the welding of pressure piping in the horizontal, vertical and horizontal-fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code.
Course Hours Per Week: Class 4, M. Lab 6.
Quarter Hours Credit 6.
Prerequisites: WLD 1122, WLD 1123

WLD 1125 - Certification Practices
This course involves practice in welding the various materials to meet certification standards. The student uses various tests including the guided bend and the tensile strength tests to check the quality of his or her work. Emphasis is placed on attaining skill in producing quality welds.
Course Hours Per Week: Class 3, M. Lab 3.
Quarter Hours Credit 4.
Prerequisites: WLD 1122, WLD 1123

WLD 1127 - Advanced Arc Welding
This course will be a continuation of WLD 1119 in order to give the student additional practice in welding plate steel of all thickness and in all positions to American Welding Society Codes. All safety procedures will be emphasized throughout the course. This course will enable the student to be better prepared to pass welding tests in industry and become a certified welder.
Course Hours Per Week: Class 7, M. Lab 9.
Quarter Hours Credit 10.
Prerequisite: WLD 1119

WWK 1110 - Modern Yacht Joiner Practices I
In this course the student will learn the necessary skills to rough-in the interior bulkheads, soles, furniture, and cabinetry in the modern yacht.
Course Hours Per Week: Class 3, M. Lab 6.
Quarter Hours Credit 5.
Prerequisite: BTB 1110

WWK 1111 - Modern Yacht Joiner Practices II
This course is an extension of Modern Yacht Jointer Practices I. Emphasis is placed on the finished woodworking and trim. Doors, drawers, and moldings will be constructed. Production jigs to increase efficiency will be utilized. Modern oils, paints, and varnish applications will be practiced.
Course Hours Per Week: Class 2, M. Lab 6.
Quarter Hours Credit 4.
Prerequisite: WWK 1110

EXTENDED SERVICES

Continuing Education

Cape Fear Community College provides training in numerous areas through its Continuing Education programs. Classes are held at the College and at various locations throughout New Hanover and Pender counties. Classes are designed to prepare individuals for employment and to upgrade workers already employed; in addition, classes are also designed to improve an adult's economic, social and and cultural standing.

The Continuing Education Division also provides training for employees of area industries and public agencies. Once a need has been established, training can be offered at any time. Full details can be obtained by contacting the Dean of Continuing Education.

Admission Requirements
Generally, any individual who is 18 years of age or whose high school class has graduated is eligible for admission to continuing education classes. Applicants are usually admitted on a first come, first served basis. Some classes may have specific admission requirements. In such cases, applicants will be properly notified.

Expenses
Many of the continuing education classes are offered without charge to the students. Course cost will usually be $30.00. Persons 65 years or older will be exempt from fees provided there is available space. In special cases, larger fees and/or additional fees may be charged.

Continuing Education Courses
The Continuing Education Division offers courses in the following categories:

Academic	Avocational
Occupational	Upgrading Training for Industry
Practical Skill	Public Health and Safety (EMT, Fire, Rescue)

The types and frequency of these offerings are determined by the demand and interest in a given area of study. A sampling of courses under this heading would include:

Law for the Layman	Crafts
Creative Art	Quilting
Computer Applications	Basketweaving
Manual Language	Small Engine Repair
Sewing	

Additional courses are offered as the demand becomes evident. Details of these and other courses may be obtained from the Director of Continuing Education.

Human Resources Development Program

The Human Resources Development Program (HRD) is designed to provide carefully structured pre-vocational training/ counseling and assistance in placement into permanent employment or further educational training for chronically unemployed and underemployed adults.

The primary objective of HRD is to help the jobless trainees reorient themselves to the world of work through recognition of self-assets and limitations, understanding the effect of his/ her behavior on others, familiarization with problem-solving processes, and development.

HRD is the only educational program in the community college system which requires a one-year follow-up of program graduates. Since its introduction into the community college system, HRD has been the only tax supported educational program (in the public school, university, or community college systems) which is funded on the basis of performance.

For further information concerning the program, please contact Human Resources Development, Cape Fear Community College.

Basic Skills

The Basic Skills Division of Cape Fear Community College is primarily concerned with raising the educational level of adults. The College is prepared to provide training at all educational levels from grade one (learning to read and write) up through high school completion. This training is provided through organized classes.

Basic Skills classes are organized as follows:
Adult Basic Education (ABE) - A program of basic skills for adults, 16 or older, who have not graduated from high school and function at less than the 9th (ninth) grade level.

General Educational Development (GED) - A program of instruction for adults, 16 or older, who have not graduated from high school, function at or above the 9th (ninth) grade level, and wish to receive a High School Equivalency Certificate.

Adult High School Diploma (AHS) - A program of instruction for adults, 16 or older, who have not graduated from high school, and wish to take the courses necessary to earn a high school diploma.

Compensatory Education - A program to compensate those mentally retarded adults who have not had an education or received an inadequate one. Basic skills as well as survival skills are included.

English as a Second Language (ESL) - English as a Second Language is designed for adults who want to learn the English language skills necessary to function effectively in an English-speaking environment.

ADMISSION REQUIREMENT
Any adult who has a desire to raise his or her educational level and who is able to benefit from a course may enroll in the basic skills classes.

EXPENSES
There is no charge for any Basic Skills class.

HIGH SCHOOL EQUIVALENCY CERTIFICATE
The State of North Carolina, through the State Board of Education permits adults (18 years of age) to take the General Educational Development Tests, (generally referred to as "the High School Equivalency Examination" GED) at test centers throughout the State. Persons who make satisfactory scores on all five sections of the test are issued the High School Equivalency Certificate by the State Board of Education. This certificate is recognized by most industries, schools, and government agencies as meeting their requirement for a high school education. Cape Fear Community College is a GED test center. The test is generally given three times each month; applications for the tests may be obtained from the College or from the office of any school superintendent.

The College provides training in the five areas covered by the examination both through organized classes and the Academic Enhancement Center.

New Industry Training

One of the basic objectives of Cape Fear Community College is to stimulate the creation of more challenging and rewarding jobs for the people of our area by providing a customized training service to new and expanding industries. Subject to only minimal limitations, this Institution, in cooperation with the Industrial Services Division of the State Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new job opportunities in North Carolina.

This program includes the following services:

1. Consultation in determining job descriptions; defining areas of training; and in prescribing appropriate course outlines, training schedules, and materials.

2. Selecting and training of instructors. These instructors may be recruited from the company and from outside sources.

3. Payment of instructors' wages for the duration of the training program.

4. Provision of suitable space for a temporary training facility prior to the completion of the new plant, should such temporary space be required. This may be space with Cape Fear Community College or leased space in the community.

5. Assumption of installation costs of equipment in the temporary training facility.

6. Payment for one-half the cost of nonsalvageable materials expended in the training program.

The purpose of this service is to help a new or expanding industry meet its immediate manpower needs and to encourage each industry to develop a long-range training program of its own to satisfy its continuing replacement and re-training needs.

For further details of this service, contact the President of Cape Fear Community College, Wilmington, North Carolina, or the Director of the Industrial Services Division, North Carolina Department of Community Colleges, Raleigh, North Carolina.

Academic Enhancement Center

It is not uncommon for a student to enter college who, for some reason, is deficient in the basic skills of reading, English, and/or mathematics. Recognizing this and being committed to making every opportunity available for students to help ensure their success, the school established a Developmental Studies program. This program is designed to help students gain the necessary skills in reading, English, and/or mathematics that will allow them to enter the curriculum program of their original choice. Successfully passing these developmental courses will help ensure that the student has the basic skills in reading, English, and/or mathematics to function at the required entry level. These courses are required for those students who have been identified by the Admissions Office as needing enhancement in reading, English or mathematics, or all.

Developmental courses earn credit; however, such credit does not apply toward the required hours for receiving a degree or certificate. Developmental courses are graded as "S" Satisfactory, or "U" Unsatisfactory. A satisfactory "S" grade is required on these course offerings before an individual will be allowed to enter the math and/or English sequence for which the developmental course is required (See Technical or Trade Course Descriptions for details)

Business and Industry Center

The function of the Business and Industry Center is to be responsive to the education and training needs of area business, industry and municipalities by providing retraining and upgrading of both technical and interpersonal skills.

Working with an industry representative, the staff will identify training needs and initiate an instructional program based on those needs. Training can be provided on-site, at another designated location or on the Cape Fear Community College campus.

The Business and Industry Center recognizes that customized programs with maximum flexibility at minimum cost are the key to helping area businesses maintain their competitive edge.

For information on this service, contact the Business and Industry Center Director, Cape Fear Community College, Wilmington, NC.

Small Business Center

The Small Business Center at Cape Fear Community College is one of fifty-three centers in the North Carolina Community College system. As part of a statewide network, the Small Business Center works cooperatively with local organizations, state and local governments, universities and colleges, and private enterprise in promoting assistance to small businesses.

The purpose of the Small Business Center is to deliver technical and managerial assistance to small business owners and prospective owners. The range of services include: training and educational programs, counseling and referral, and a resource library of recent publications and videos.

For further information on the service, contact the Small Business Center Director, Cape Fear Community College, Wilmington, NC or the Small Business Center Network Director, North Carolina Department of Community Colleges, Raleigh, NC.

Distance Learning

Vision Carolina is a Business-Education Partnership for the purpose of developing a fiber optic interactive-video, distance-learning network for North Carolina universities, community colleges, public schools, and medical centers. There are two separate interactive video networks in North Carolina, one located in New Hanover County and another in Gaston, Lincoln, and Mecklenburg counties.

Each site contains a classroom equipped with the monitors, cameras, and microphones necessary for interactive sessions with all sites.

Offerings on the network include two types:

Courses - Long term courses (semester/quarter length) take precedent over short term events and must be submitted through the EPN Curriculum Committee (Will Johnson, 343-0481, Ext. 345).

Short Term Events - In order to facilitate the many ideas that all of the New Hanover County Sites have introduced, a brochure has been put together. The brochure will be updated on a monthly basis (Linda Flowers, 343-0481, Ext. 253).

Teleconferencing

Cape Fear Community College has downlink capabilities via a satellite dish to receive teleconferences which may originate from anywhere in the nation. These teleconferences represent a wide range of interests including: Health Care, Higher Education, Law Enforcement, Small Business, Photography, plus many more.

These teleconferences are shown in the Teleconference Center (S-501) and broadcast over large screen television monitors. The Teleconference Center has a seating capacity of 50 persons.

Telecourses

Cape Fear Community College offers, on a semester-to-semester basis, various courses for credit that are delivered by television. These independent-study courses are aired on your local Public Broadcasting Service (PBS) station. As a telecourse student, you are required to come on campus fewer times than students in traditional classroom settings. You must, however, attend an orientation session and take course tests on campus. The TV programs serve as your lectures. You will have an instructor whom you should contact for any help with the course. You register for telecourses in the same manner as you would for any other curriculum course. Some courses are college transfer. Check with your advisory about particular telecourses. Refer to current schedule for courses for telecourse offerings.

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